

**NORMAL
AND ABNORMAL
PSYCHOLOGY**

NORMAL AND ABNORMAL PSYCHOLOGY

A Précis
for Junior Students, Nurses
Occupational Therapists
Welfare Workers
and others

by

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Chapter Two

THE INBORN BASIS OF BEHAVIOUR

Innate Reactions

As mental states and processes can only be inferred (apart from introspection) from the observation of conduct, it has been held by many that the study of psychology is primarily that of behaviour. A most important fact to be observed about behaviour is that it may be either innate (inborn or hereditary), in which case it seems to be common to all animals of the same species, or acquired by experience and teaching.

The simplest form of behaviour is the movements performed by lowly organisms in response to chemical, tactual and other stimuli. In the higher animals, complexity of structure allows more complicated responses. Still to be regarded as simple, direct and fairly elementary—and essential as a basis of all understanding of innate responses—is the single spinal reflex. It is based on a simple reflex arc consisting of sensory organ; afferent nerve, spinal cord connecting neuron, efferent nerve, muscle and joint, the whole arc responding to any single stimulus applied to the sense organ.*

When, however, the animal responds to a *group* of stimuli, that is, to a combination of circumstances, but does so innately, it still acts in a way that can well be described as reflex, but it is a reaction that is much more comprehensive than a simple spinal reflex. For the animal to react, say, to a situation which causes it to run away, it must appreciate a *number* of facts in its environment which together constitute a fear situation; for example, it senses some large object, moving swiftly, making a growling noise, having a peculiar smell, etc. Now this appreciation of a number of stimuli at once, of a "situation" in fact, means that the different sense impressions received must be pooled together before any adequate response can occur; moreover, the response itself may have to be complex, and involves the whole organism. Consequently, such responses cannot depend merely on a single reflex arc. The fact that sensory impressions have to be gathered together first implies that the optic thalamus, to which all incoming sense impressions go, must be involved and that the reflex takes place at the level of the basal ganglia. These complex and innate tendencies

* See Appendix

to react in specific ways to certain situations, ways that are common to all similar animals, are the core of what we call instinctive behaviour, and the energy which is associated with such activity—the drive or urge that is thus expressed—is the driving power behind *all* behaviour, innate or not ; it is the life force that accounts for an animal behaving at all. Such behaviour, being inborn, does not require any previous teaching or experience for its correct performance ; the animal is naturally endowed with the capacity for adequate response.

Instincts and Sentiments

Instinct has led to much controversy, the word is very loosely used, and it is necessary to discuss in some detail the ways in which this important subject has been dealt with.

A. INSTINCTIVE ACTS. Some authors speak merely of instinctive acts, *single* acts reflexly performed, and upon these as a basis an attempt is made to explain all innate behaviour of animals. Examples of such acts would be instinctive crying, grasping, kicking, etc.

Comments. This view does not do justice to the fact that before reacting reflexly to a "situation" the animal must have a complete sensory impression of the situation as a whole. Again, its response is much more than just a single act, or even a conglomeration of single acts ; it consists of a number of acts knit together into a purposeful whole. The acts are designed to assist one another, and the resultant behaviour has a purpose and meaning. For instance, when an animal instinctively fights its enemy, its behaviour is not just one action, it is many actions all related to each other (scratching, tearing, biting, attacking, retreating, etc.), the purpose being to drive off its opponent. Finally, when an animal's instinctive tendencies are aroused, it shows those signs which we are accustomed to look upon as denoting certain well-defined states of feeling, such as rage, fear, and so on.

In short, account should be taken of the fact that the animal senses a complex situation, that it appears to experience certain states of feeling and that it tends to react in a complex way designed to achieve a certain result or purpose.

B. INSTINCTS. The viewing of instinctive behaviour in the way just suggested has been specially associated with the name of McDougall, as he was the first to insist that all such behaviour involved the whole organism and should be regarded from three aspects. These three aspects really apply to *all* behaviour, so that mental processes, primitive and advanced, can be classed under one of three headings.

Cognition is the name for "knowing," and any process by means of which we know and appreciate our surroundings is a cognitive one. Because we are affected by our surroundings to the extent that we get feelings and emotions about them, then we group all such feelings under the heading of *affect*. The fact that we have tendencies to do something about our surroundings and to respond to them is termed *conation*, and the mental processes that lead to action are, therefore, termed conative. The application of the above to innate behaviour is what led McDougall to speak of the three aspects of instinct: the *cognitive* aspect (cognition being the term given to the sensing and recognising of the situation as a whole by the animal); the *affective* aspect (that of the feelings and emotions the animal experiences); and the *conative* aspect (concerned with the way in which the animal has strivings to act in a particular manner).

McDougall has described the various innate responses to specific situations and has called the tendencies thus exhibited *instincts*, each instinct being characterised not only by the nature of its particular response but also by the special feeling or emotion attached to it. The instincts described by him are the following

1. The instinct of flight and the emotion of fear.
2. The instinct of repulsion and the emotion of disgust.
3. The instinct of curiosity and the emotion of wonder.
4. The instinct of pugnacity and the emotion of anger.
5. The instinct of self-assertion and the emotion of elation.
6. The instinct of self-abasement and the emotion of subjection.
7. The instinct of parenthood and the emotion of tenderness.
8. The instinct of mating and the emotion of sexuality.
9. The instinct of gregariousness and the emotion of nostalgia.
10. The instinct of acquisition and the emotion of possession.
11. The instinct of construction and the emotion of creativeness.
12. The instinct of food-seeking and the emotion of appetite.
13. The instinct of appeal and the emotion of helplessness.
14. The instinct of laughter and the emotion of amusement.

We need not spend time describing these instincts in detail because we can all readily picture the kinds of situations by which these instincts can be aroused, such as a typical mating situation, or a situation that stirs the parental instinct, or again one that calls forth the instinct of curiosity; a fear situation has been referred to earlier. A word should be said, however, concerning the instinct of pugnacity. Not only are the situations calling forth this instinct ill defined, but the arousing of the instinct seems to be closely connected with the functioning of the

other instincts. Especially when any one of the other instincts is balked or has its fulfilment interfered with is the instinct of pugnacity liable to show itself. Fight is the natural reaction of an animal being separated from its food, from its mate, or from its young, so that any thwarting of an instinctive tendency is likely to lead to anger and aggressiveness—a fact to which we shall have to refer again in connection with abnormal psychology.

We might recognise, in passing, that there are certain primitive forms of activity that are certainly reflex and innate but which are too elementary to be called instincts. They usually occur in response to internal bodily needs of immediate urgency and include such things as eating because the body needs food, drinking on account of being parched, and defæcating as a result of a full bowel. These activities hardly involve the whole organism, they are not called forth by complex external situations, nor are they associated with any particular emotion, so that they are on a much lower plane than the instincts described above.

We must now take up the question of the emotions in more detail. Some of these emotions are given different names when they are momentary and very acute, or when they last long enough in a milder form to constitute moods. Thus acute fear becomes terror, and milder, more prolonged fear, apprehension. Similarly, anger, if extreme, is called rage but, if mild and prolonged, it is annoyance.

The emotions mentioned above are regarded by McDougall as *primary*, and the combination of primary emotions with each other gives rise to what he terms the *secondary emotions*. Thus the emotion of wonder and the emotion of subjection together constitute the emotion of admiration. Further, admiration and fear lead to awe. Again, disgust blended with anger constitutes scorn, but if blended with fear it leads to loathing; loathing and wonder give rise to fascination.

When some of these complex emotions become grouped about certain objects or the idea of these objects, the result is the formation of *sentiments*, and as emotion is only one aspect of instinct at large, these sentiments then are groups of instinctive tendencies centred upon a particular object. For instance, a child may be the object of sentiments of affection and pride. The primary emotion awakened in the parent (as part of the parental instinct) is the tender emotion, but many more emotions may be grouped round the idea of that child—elation in its possession, fear if its welfare is endangered, anger at any interference with it, jealousy of other people's attentions. These emotions may only be aroused from time to time, but the fact that they

can be aroused in such ways is the central fact of sentiments of affection and pride being centred on the child.

A sentiment is thus a group of emotional tendencies related to a particular object or idea. Furthermore, various sentiments may be grouped together to form still larger systems or *complexes*, as when all the sentiments concerned in our pursuit of self-advancement are collectively termed our ego or self-regarding complex. Similarly, all the sentimental tendencies broadly relating to our love-life together constitute our love complex. In the same way, we might recognise a war complex, a political complex, a sport complex, and so on.

In addition to the specific instincts, McDougall recognises some "general tendencies," not so clearly defined as instincts, and of these there are three: *suggestibility*, *play* (and rivalry), and *habit*.

Suggestibility can be recognised in three forms :

- (a) cognitive, when one mind accepts ideas from another uncritically (*suggestion*) ;
- (b) affective, when emotions are similarly acquired from others (*sympathy*) ;
- (c) conative, when actions are copied from others (*imitation*).

Play is an innate tendency that may have considerable value in the training of the young for the day it has to act alone as a self-supporting individual.

Habit is the tendency for certain actions to be performed more and more easily and readily as the result of previous execution, this leading to their performance becoming automatic, i.e. without awareness or thought ; an *automatic act* may thus be innate (instinctive) or acquired (habitual).

Comments.—While the above account of instincts, according to McDougall, has much to recommend it, certain possible deficiencies should be noted. It does not, in fact, follow that the emotions are always associated with certain actions quite as rigidly as assumed. Fear does not always lead to flight ; it may lead to silence or screams, immobility, shivering, etc. Nor does flight necessarily always accompany fear ; it may equally well be associated with anger, joy, surprise, playfulness, and so on. Moreover, it may be that emotion is only marked when the instinctive action is blocked or inhibited in any way, as when fear becomes acute because the situation prevents any effective action being taken. It is common knowledge that if people have plenty to do during a raid they are much less afraid than if they merely stood still waiting for the bombs to fall. A caged animal, faced with anything frightening, will display more acute signs of fear than if it

could fly or fight. In short, "to do something about it" seems to alleviate the emotion.

The main inadequacy of these views, however, lies in the fact that they imply that while an animal responds in a certain way to certain stimuli, yet if no such stimuli occur then the animal has no tendency to do anything. But it can be shown how an animal *requires* to behave in certain ways, and if it is not stimulated to act in such ways from time to time it will tend to go looking for situations that will cause it to act in the desired fashion; in fact, it goes looking for stimuli that will force it to behave in the way it wants. We know well, for instance, that a man does not merely love the girl who attracts him; if there is no girl in view who stirs him, he goes searching for a girl by whom to be stirred.

C. INSTINCTUAL TENSIONS. A more complete description, therefore, would be to say that in the animal are certain organs and mechanisms which, because they are there to function when necessary must, if they are to remain healthy, function sometimes. If they persistently fail to be stimulated into action, then certain states of internal tension are set up which can only be relieved by appropriate activity. Consequently, the animal is prompted to seek those stimuli that will determine a behaviour that leads to a relief of these tensions. The various forms of instinctive behaviour that relieve such tension can then be described as McDougall does in his account of instincts.

The state of tension itself could, of course, be regarded as a "situation" that determines a certain response: an *internal* situation causing stimuli to arise from *within*, this leading to the response that consists of searching for an *external* situation that provides stimuli arising from *without*, and which in its turn determines a behaviour that relieves the original tension.

Comments.—In both the above views the position of emotion needs a little clarifying. It has been suggested by some writers that the feeling we term an emotion is merely the appreciation of certain physical changes associated with instinctive action. In the case of fear, it would be the sensing of the increased blood pressure, the sweating, the dryness of the mouth, the accelerated heart-beat, etc. The reason these physical changes occur at all is held to be that they are a preparation for action; the increased blood pressure, the greater cardiac activity and the heightened muscular tone in fear would, indeed, well prepare the organism for the muscular effort required during flight.

Emotion would thus appear to be primarily the result of afferent impulses received via the optic thalamus from the viscera and other internal organs.* That the lower cerebral centres are the most concerned in the production of emotion is shown by the experimental

* See Appendix

evidence afforded by stimulation (chemical and electrical) of the region immediately below the thalamus, this resulting in an accentuation or a diminution of existing emotional moods. Emotions, then, follow the arousing of instinctive tendencies and are merely the sensing of internal changes that are part of the response, so that rather than say that "we tremble and sweat because we are afraid," it would be truer to say that "we are afraid because we tremble and sweat."

Therefore, it may not be strictly correct to speak of emotion as itself urging us to do anything, because emotion is probably only a conscious appreciation occurring in the higher cerebral centres of what is really going on at the lower levels. Yet, although emotion may be only a *sign* of an instinctive tendency, some writers find it more practical to refer to emotion as though it were the motive force rather than to attempt to name and describe each time the instinctive processes on which the emotion depends.

D. MAJOR COMPLEXES. Some writers, instead of recognising numerous instincts as McDougall does, have reduced their number, in man, to three, and they view all behaviour as primarily caused by ego, sex and herd instincts. Before accepting such a view, however, care must be taken to understand very clearly what is meant by using the word instinct in this connection. Let us first admit that the tendencies and aims of man can be usefully grouped under these three headings, as follows :

(a) The ego tendencies of man are all those which help his "ego," his self, in his fight for survival. These tendencies are essential to him in his battle against nature on the one hand and his fellow creatures on the other.

(b) The sex tendencies are all those which urge man to form love relationships with members of the opposite sex.

(c) The herd tendencies are those which lead man to be social and to blend with and fight for the common herd to which he belongs.

Comment.—The fact must be faced, however, that these tendencies are certainly not instincts; they are something much vaster, more complex, and belong to a more advanced stage of mental evolution than the instincts described by McDougall. It might be said that the instincts of McDougall work for the furtherance of any and all of these three main urges in turn. For example, fighting would be regarded by McDougall as an expression of his instinct of pugnacity, but the reason for fighting might be on the one hand to ward off a personal enemy, or on the other to win a mate from a rival, or again to support

the group against a common aggressor ; in other words, the fight might be furthering ego-needs, sex-needs or herd-needs. If, then, we were to retain the term instinct for these main groups of tendencies (ego, sex and herd) we would be in the position of having to recognise instincts within instincts with resulting confusion. Moreover, we must note a point of capital importance in connection with these three main urges, and that is that the goals towards which they strive are *ultimate*, long-term ones, often complex, the achievement of which requires foresight and judgment. Not so McDougall's instincts : they are tendencies that lead to a complete and *immediate* response, thought is not involved, the goal is achieved at once and then all is over—until the next stimulus arrives. The aims of the sex-urge are evidently much more than the single act of reproduction demanded by McDougall's sex instinct. The needs of the herd-urge are not limited to the mere gathering together that McDougall's herd instinct implies ; they include such as group co-operation, social organisation, collective bargaining, trading, etc., all of which are long-term activities, not immediate responses, requiring reasoning and judgment.

We have to reckon then, with man's ability to plan, to foresee, and to postpone immediate pleasure for greater gains later—with his higher mental faculties, in fact—and it is clear that these main urges are concerned with desires that need a foresight of ends and means for their satisfaction, and are far removed from the elementary and primitive instincts of McDougall. Indeed, these main urges are more in the nature of *sentiments*—and complex sentiments at that—the sentiments or attitudes we have towards our personal life, our love life and our social life. They should, therefore, be termed "major" complexes.

Hence we should recognise *instinctive mechanisms, instincts, and major complexes*. The instinctive mechanisms are part of the machinery for the expression of instincts, while the instincts themselves are integrated or built up into sentiments that tend to group themselves into three main complexes.

Chapter Three

MODIFICATIONS OF INSTINCT

Conditioned Responses

IN connection with innate tendencies and reactions it is very necessary to beware of falling into the error of calling innate all those reflexes which make their appearance in infancy ; the fact that they occur so early tends to prevent us from recognising how many of them are really acquired. For instance, it was found that when young Orioles were isolated they took to singing just as all such birds do, so that the tendency to sing was evidently inborn. The song the isolated birds sang, however, was quite unlike the song of the wild birds. We must conclude, therefore, that while the singing of Orioles is instinctive, the kind of song they normally sing is not : it is acquired from example.

Again, it used at one time to be believed that the fear so often exhibited by infants when immersed in water was inborn. It has now been shown that only two fears are innate in the human child—fear of loud noise and fear of loss of balance. It is quite likely, however, that the first time the child is plunged in water it may not be held very firmly, so that its balance is rendered insecure by the buoyancy of the water. This means that the child experiences a loss of balance (of which it is inherently afraid) at the same time as it experiences the feel of the water. The result is that the two kinds of stimuli (loss of balance and feel of water) having been associated when the fear was first experienced, either of them alone will in future tend to determine a fear reaction.

This association of stimuli leading to the transferring of an instinctive response from one original stimulus to a new one is what is termed conditioning, and when a reflex is thus attached to a new stimulus it is termed a *conditioned reflex*. To give another example : a child has an innate reflex against pain, and if its hand touches something hot it will withdraw it. It has, however, no innate response to, shall we say, the sight of a hot teapot, unless it be one of attraction owing to natural curiosity. But let the child once experience the sight of the teapot at the same time as the pain caused by touching it, then it will subsequently evince a feeling of repulsion instead of one of attraction whenever the teapot appears.

This conditioning, then, is one of the ways in which innate responses to certain stimuli can be modified, and this opens up the important question of the adaptability of living creatures to their environment.

Adaptability

In an animal placed in conditions that do not vary, its natural instincts are fairly rigid in form and are all it needs for effectively dealing with its environment. As the environment becomes more liable to change, so must the animal's innate pattern of reactions become more plastic, more readily moulded into new and suitable responses. When we come to civilised life, with all its complex demands and multiplicity of circumstances, then a constant adaptability of behaviour is what is needed. Consequently, the original instincts survive only as a framework on which adult behaviour is built.

Now the reason why man can so modify his original instinctive patterns of behaviour to suit his highly complex environment is largely because man is intelligent, and it is a characteristic of intelligent behaviour that it is not fixed but, on the contrary, is highly variable from moment to moment, owing to its being the subject of constant modification by thought and reason.

On the other hand, we should not separate intelligence too sharply from instinct, because the tendency to adapt by means of intelligence is innate too. Moreover, if intelligent behaviour were a separate kind of behaviour, distinct from instinctive behaviour, then we should have no prime force to account for it, having already accepted the energy bound up in the instincts as responsible for *all* behaviour. Rather should we regard intelligence merely as an adaptation of our instinctive responses, or shall we say as "instinct modified by thought."

Acquired behaviour must have innate behaviour as a basis; however complex our activities may become through learning and education, they must consist in the last analysis of primitive reactions suitably modified to meet our civilised conditions. Without certain innate, inherited patterns of behaviour to provide a starting point experience and teaching would have nothing to work on.

Modes of Modification

There are two kinds of modification possible. In the first place, there may be alterations in the kinds of situations to which the animal responds, so that new situations may become capable of arousing the instinct while some that once called it into play may later become

ineffective. In the second place, changes may occur in the form of the instinctive response itself. The ways in which these changes take place are briefly as follows :

A. MODIFICATION IN THE "SITUATION."

(1) *By conditioning.* The situations calling forth the instinctive response may be added to so that certain objects come to arouse the instinct although they did not do so originally. This is the result of conditioning, as when the child becomes afraid of the water or of the teapot in the examples given earlier.

(2) *By greater specificity.* The situations calling forth the instinctive response may be narrowed down and become more specific, as when a primitive tendency to react in a certain way to *all* situations of a certain kind becomes modified into the tendency to react in that way to a *particular* situation only. An example of this is when a man's love for women in general has become narrowed down to the love of one woman in particular.

B. MODIFICATION IN THE RESPONSE ITSELF.

(1) *Spontaneously*, as when an animal, faced with a new situation, produces a new and adequate response immediately, without previous learning or experience.

(2) *By experience*, as when a new situation is met first by the old responses, and when these are found to fail, then various new responses are tried out until one is achieved which leads to a successful result. Typical of such adaptation is an animal's solving of a maze by trial and error ; the animal runs hither and thither, in a random fashion, until it succeeds in achieving its goal by chance. After much repetition of the process it makes less and less mistakes, until it finally becomes able to take the right course from the start. The rule of such learning appears to be that if the chance carrying out of an action leads to a successful (i.e. satisfying) result, the subsequent repetition of that action tends to be facilitated ; if unsuccessful, its repetition tends to be inhibited.

(3) *By thought.* (a) *Imagination.* The trial and error method described above can be replaced by imagination if, instead of actually trying out certain movements, these movements are mentally pictured until the right solution is found. For instance, whereas some people will solve a simple mechanical puzzle (such as the interlocking keys) by actual random movements, others will look at the keys, imagining possible movements to themselves until they "see the right way in their minds." (b) *Reasoning.* This form of adaptation is the one that implies reasoning and calculation, as when the desired response depends

on time and distance, or when complex mechanical means have to be employed. Indeed, many of man's higher reactions are of this type, especially those that result from the choosing of one of several alternatives. A fear situation for example, might lead first to a period of reflection, after which the individual may decide that flight is the best response, or advance if he thinks he can intimidate his enemy, or picking up a rifle and firing at him, or attempting to deceive him as to his own identity, or concealment, and so on.

It should be noted, too, that in man an instinct can be aroused by the *thought* or idea of a particular situation ; a terrifying experience in the past may result in a fear reaction being subsequently evinced on merely thinking of that experience ; many people will feel shaky at the thought of air raids, even though none is occurring at the moment.

(4) *By suggestibility.* The fact that we are apt to take unto ourselves other people's thoughts, feelings and actions means that our original instinctive responses can be further modified by (a) *suggestion*, (b) *sympathy* and (c) *imitation*.

Chapter Four

HIGHER MENTAL PROCESSES

Perception and Conception

THE nervous mechanisms that are responsible for what we term higher mental processes are located in the highest levels of the nervous system, in the brain, above the level of the basal ganglia. The cerebral cortex is concerned in all those mental events that are conscious, i.e. of which we are so aware that we are able to "introspect" them, but many processes that are truly mental may yet not be clearly known at all, in which case they are unconscious. Some of these higher processes we have referred to already in passing and we must now consider them in greater detail. Just as the instincts can be viewed from three aspects (cognitive, affective and conative) so can these more advanced mental functions.

On the cognitive or knowing side we have as a basis the primitive awareness of direct sense impression, the sensations that we receive from the external world on the one hand and the vaguer ones that emanate from our internal organs on the other. In practice, however, we never merely *sense* the objects of our environment, we *perceive* them, as *distinct objects*, and this implies more than a mere addition of sensations to one another. Thus an orange may give us impressions of hardness, of roughness, of a yellowish-red colour, of roundness, of a characteristic smell, of a peculiar taste; but what we appreciate is not just these sensations separately from each other, or even merely added together. We do not say to ourselves, "I can see something round, something red, I feel something rough," etc.; what we do appreciate is a *percept* of an orange *as a whole*, this consisting of all these different impressions knit together into *one* massive unitary presentation. In order to perceive an orange—in order, that is, to give a group of sensations the necessary unity that leads to a percept—some previous experience of similar groupings of sensations is necessary. Hence a child seeing an orange for the first time will not view it as a whole, as an "object," but on later seeing an orange again, it will tend to recall its previous impressions and, because of that past experience, will be enabled to *recognise* the orange as a specific "thing."

Later on still, the child will not only recollect the past impression of an orange when faced with an orange in the present, but will gradually

develop the faculty of recalling the impressions of an orange even when no actual orange is in sight at the moment ; in other words, it will be able not only to recognise an orange, but also to *remember* an orange. Then, from thus recalling at will images of past oranges, it will fashion for itself a general *concept* of oranges at large. Such conception is based not on what a particular orange was like but on the sum total of all the characteristics observed in countless oranges, so that the properties of oranges in general can be "abstracted." Later on still, the concept of an orange may become associated in the mind with certain events and emotions in which oranges once played a part, and this additional material that gives the concept of an orange a fuller meaning leads to *ideas* about oranges (e.g. the idea that oranges assuage thirst, cost money, are suitable to play ball with, come from certain parts of the world). All thinking processes are largely dependent upon the abstract ideas that we thus develop concerning the general qualities of the world in which we live.

We see, then, how *sensation* leads to *perception*, and how *conception* and *ideation* are reached by giving to simple percepts a meaning derived from the recollection of past impressions and from other associated material.

Memory and Imagination

The recall of past impressions is what leads to the formation of *images*, these images being like actual sensations, though less clear, less complete and less intense. The same part of the cortex is involved in both cases, but whereas during sensation the cells of the sensory cortex are activated by nerve impulses originated by stimuli coming from the sense organs, in the case of mental images the nerve impulses arise from within the brain itself.

This brings us, then, to the question of memory and the basic fact underlying it, that of *retentiveness*. This is the capacity for all cerebral events to leave a permanent trace that can lead to the future re-enactment of these events in absence of the original cause. The ease with which these memories of past events can be recalled depends to a great extent upon the strength of the impression created in the first place, and this, in turn, is governed by many factors. For instance, the intensity of the original stimulus, if a sensory one, is important ; it is easier to recall a loud noise than a faint one. Again, the unusualness, or the unexpectedness, or the importance to us of an event, will cause the impression it makes to be all the more profound. Moreover, the greater the attention we pay to it the easier will be its recall in the future.

There are different kinds of memory, corresponding to the kinds of imaged recalled. We have visual memory, auditory memory, olfactory memory, and most people find that they are better at one kind of remembering than at others. Some students remember best diagrams they have seen or those they have themselves drawn, some find it easier to recall the printed page, while others again are most impressed by the spoken word.

In pure remembering we conjure up various images in the same form and grouped in the same way that we first experienced the sensations from which they derive. If, however, we regroup these images in ways that do not correspond with anything that we have ever actually experienced before, then we are no longer merely *remembering*, we are *imagining*. For instance, I can recall my little sister, in a white dress, playing with a doll, just as I can recall a male friend, in soldier's uniform, firing a gun. But if I picture to myself my sister firing a gun or my friend in a white dress playing with a doll, I am imagining. The items of each picture are not new, I have seen them before, but I have never seen them grouped in that way. Imagination is, therefore, "memories rearranged," and it is an essential part of all constructive thought.

Thought and Reason

The cognitive aspect of mind, then, includes sensation, perception, and conception, to which we should add that "inner perception" of our own mental states and processes that we call introspection, that "looking into our mind" to which we have already referred. The higher aspect of the affective side of our mind has been already touched upon in connection with the emotions and the sentiments, and little more need be said about them at this stage. On the conative side, the striving side that leads to action, we have our instinctive tendencies modified in varying degrees by thought and reason.

Thought largely consists of stringing together ideas, one leading to the next, and when they follow one another in accordance with rules and patterns that we have specially learned as likely to lead to a correct conclusion, we have that kind of thinking that is *reasoning*. There is one function peculiar to man that assumes paramount importance in thought: it is the use of *language*, where words are used to stand for groups of images. In the case of proper names, words stand, therefore, for percepts, but in other instances they stand for abstractions or concepts. Words are symbols that are used in thought, just as they are in speech for communication between individuals. Thought is

viewed by some writers partly as "speaking to oneself in words" and partly as a picturing of things to ourselves. Concrete objects can be easily thought of in terms of images but words are necessary when we think of such abstractions as, for instance, courage, truth or beauty.

Whether we are indulging in reasoning or in thinking unguided by the rules that we term logic, the ideas, images and words that come to our minds lead to one another by a process of *association*, this association being based on past experience and following certain likely "laws." We have association by contiguity, by similarity, etc. Thus, when we see the letters A, B, C, we tend to think of D, E, F, because we have so often seen ABC and DEF close together (contiguous in space); if we see a flash of lightning we think of thunder, on account of having so often in the past found the latter closely follow the former (contiguous in time). The word "black" might call forth "white" as a response (association by opposites), or "ass" might associate with "donkey" (by similarity). Certain associations, however, occur not because of similarity or contiguity, but because the first idea relates to some condition or event that was of such importance to us at one time that it tends to call up some other idea equally related to the same condition or event. Thus "chair" might, in one person, evoke some simple response such as "table" or "rest," whereas in another it might conjure up the picture of a deceased relative whose chair now stands empty by the fireside. Association may thus be influenced by emotional factors.

When our thoughts follow certain rules—as in reasoning and judging—this depends on our capacity for forming abstract concepts that enable us to formulate a relationship between objects and events. Consequently, we can deduce certain facts from our knowledge of these relationships, and this is reasoning. For example, if we think of "husband" and "wife," we recognise that the relationship is that of marriage; the relationship between "hot" and "cold" is one of opposites. Moreover, knowing the relationship and one of the terms we can deduce the other. We deduce, for instance, that the words required to complete the propositions "husband is to wife as King is to . . ." and "hot is to cold as black is to . . ." are "Queen" and "white" respectively. The first part of each proposition gives a clue to the relationship, and this enables us to complete the second part.

Rather than go into any complex analysis of the higher forms of reasoning, we should note how the term reason is reserved for denoting forms of thought that are logical to the same extent that they remain unbiased by emotional factors. It is, of course, very doubtful whether reason is ever quite uninfluenced by emotion, but in so far as it is not

usually seriously affected in this way, then "pure" reason is, if not completely attainable, at least an ideal to which close approximation is possible. But when emotional factors do come markedly into play, when a sentimental bias affects the whole course of reasoning, when thought is used not to achieve a decision but merely to support a decision already arrived at to satisfy emotional needs—in short, when "wishful thinking" is indulged in—this is no longer reason; it becomes what is termed "*rationalization*."

Coming back for a moment to the question of adaptability and the modification of instincts, we can now distinguish more fully between behaviour that is primitively instinctive and that which is so highly adapted as to be termed intelligent. On the one hand, primitive behaviour consists of an expression of instinctive tendencies in their original form or of the same tendencies modified spontaneously, or by simple conditioning, or by experience (trial and error). On the other hand, intelligent behaviour consists of instinctive responses so modified by thought that their connection with the original instincts is no longer obvious. Intelligence thus requires the capacity for thought, it implies memory and mental imagery, and therefore it cannot exist without the formation of abstract concepts and ideas. In other words, adaptability occurs on the perceptual level when it consists of simple conditioning and learning by trial and error, and on the conceptual level when it involves thought and reason. Animals adapt almost wholly on a perceptual basis, not on a conceptual one implying imagery and abstraction, so that animal adaptation, while often very striking and extensive, does not necessarily mean intelligence, though it is often mistaken for it.

Conflict and Will

Our behaviour is the resultant of all our instinctive tendencies, often modified, of course, in respect of their forms of expression, by experience and thought. It is frequently the case, however, that while one instinct prompts us this way, another urges us that way, and a state of *conflict* results. If unresolved, the conflict leads to a deadlock, and to either an absence of action or else to action that alternates in form, satisfying first one instinct and then the other in turn. Another solution is compromise, when conduct satisfies both instincts partially but neither completely. Or else, all expression of the one instinct is completely suppressed in favour of the other.

Conflict at a higher level can equally occur between ideas and trends of thought. If such conflict is aroused in a process of forming a judgment

or opinion the result is *doubt*. If, however, a certain degree of compromise is achieved the resulting judgment is a *belief*, but if no compromise occurs, and the one idea is wholly accepted without due regard to its opponent (as often happens when a decision is influenced by emotional bias rather than by reason) the opinion that results is not belief but *faith*.

The highest form of abstract thought, involving the creation of concepts that tend to guide us in ordering our conduct in a way ultimately most satisfactory, is that concerned in fashioning for ourselves our sense of *values*. These values are our guiding lights in our attempts to lift ourselves above the level of blind instinct into those realms where worth-whileness becomes the keynote for directing behaviour. These values can be grouped in relation to our three main quests—our search for the good (ethics), the beautiful (æsthetics), and the true (logic). Within these groups, values can be further classified into commercial (e.g. money), biological (e.g. food), and sentimental. These last may be indiscriminate, shared by a whole race (e.g. courage, truth), or discriminate, shared by a section only (e.g. tradition in a society or family), or personal, not shared at all (e.g. certain beliefs of cranks or of originators of new schools of thought).

By whatever process our final behaviour is determined, we think of our "will" as likely to play some part therein. We do, of course, perform many acts involuntarily, but these are in the nature of inborn groups of reflexes (instincts), or automatic acts acquired by experience (habits). When, however, there is "deliberation" or "judgment" preceding behaviour, when in fact there is an element of conflict and doubt, then we recognise as coming into play what we term *will*. What is "will" has been the subject of much discussion because it is a word that has been used in many different ways.

In everyday speech, we are apt to refer to the will as though it were a *special* kind of force, a superior agency that is somewhat divorced from the rest of our nature and, indeed, to be used to control it, to curb our natural and instinctive desires. We are, moreover, inclined to look upon the will as a "free-will," in that it can choose freely the kind of behaviour it is going to enforce.

Yet, when we proceed to examine the matter a little more closely, it becomes apparent that in so far as all our behaviour must, when reduced to its ultimate origin, derive from our instinctive tendencies, then there is no room for any new or separate kind of force such as a will that is opposed to all instinct. Will is, therefore, much more likely to be some form of desire than a special agent for controlling all desire. Indeed, when we commonly speak of being weak-willed

in our efforts to overcome a particular undesirable tendency, we usually mean no more than that the desire to do right is not so strong as the desire to do wrong. That is, we elect to dignify our moral urge by giving it a special name—"will"—thereby making it appear as though it was something different from all other desires; hence much confusion of thought on this matter. Rather than say *the will is weak*, we should at least say "the will to do right is weak compared to the will to do something wrong," and be prepared to recognise as many "wills" as we have desires—a will to do this, a will to do that, a will to do the other. Even this way of putting it, though more correct, still means using the word "will" merely as another term for "strength of desire," thereby robbing the word of any distinct significance.

Psychologically, it seems much more likely that the will is neither a special kind of force nor a strength of desire, and that it should be regarded merely as a force *with which* an action is taken, and not as a force that *decides what* action is taken. When two or more motives come in conflict with each other, the stronger prevails over the weaker, and this fact of *prevalence* is the will. The more overwhelmingly powerful is one motive compared to the other, so is the resultant will strong; if the two are nearly equal in strength, then the resultant will is weak. The way we should regard will, then, is as a resultant of a mixture of conflicting motives of varying strengths, as the net result of the stronger ones overcoming the weaker ones.

A similar state of affairs obtains when action is determined by reason rather than by emotional desire. The heavier the balance of arguments on one side, the stronger the will. Consequently, a person who is most able to see both sides of the argument will take action with a less determination than the one who can only appreciate one side. It is easy to see, however, that the emotional desires entering into our taking of a decision, the ideas and the personal experiences that influence us in our choice, the knowledge we have of the subject at issue, all these are already present in us, they are part of our mental make-up at the time of deciding. In other words, when we "weigh the pros and cons" in order to decide our course of action, we can only weigh with the weights at our disposal, and it follows that our decision is to that extent predetermined, and the will is only "the reading of the scales," the *result* of the weighing, not anything that *precedes* the result.

We are led to the conclusion, therefore, that while our taking of a decision might be regarded as "free" in so far as it is *our* decision, resting entirely with us and with no one else, yet it is predetermined by our own mental make-up at the time; it is what it is because we

are what we are, and to that extent it is not free. Nor can we look upon the will as the cause of the decision, for it doesn't precede it ; it is only the force with which action is taken, not a force that decides the nature of the action taken. In other words, will does not affect our choice of conduct ; it is merely the determination with which the choice, once made, is acted upon. Incidentally, this means that the application of the terms *voluntary* and *involuntary* to an act does not really depend on the question of "the will," but rests merely upon the conscious awareness or otherwise of the effort required for the performance of the act : when we are aware of it, the act is voluntary ; when we are unaware of it, the act is involuntary.

As a matter of practical politics, it may be true that to think and behave "as though we possessed free will" may give us a sense of personal responsibility that will itself "determine" a behaviour that is more morally valuable than that which might result from the belief in personal irresponsibility.

or mental make-up of the individual, but others reserve the word to describe that part of the personality which is acquired from education and environment, in fact the mental and moral equipment which grows up as the result of intelligent judgment and of a building up of a sense of values.

Mental Testing

There are many traits and abilities that can be assessed accurately by means of tests devised to isolate and measure the different aptitudes that make up our mental equipment. The number of tests so devised and their several modifications are legion, and reference can only be made in the briefest manner to their general nature and the groups into which they fall.

By far the greater use of tests has been in connection with the measuring of *intelligence* and *actual performances*. Tests are used to estimate perception of form, memory, reasoning, practical and ideational judgment, and so on. The tests themselves are varied according to the age of the person to be tested, so that the scores attained can then be compared with the average scores to be expected from normal people of that particular age. The details of the tests vary much, but the usual battery of tests includes such as solving mazes, repeating sentences or numbers, repeating a set of digits backwards, arranging jumbled words to form a sentence, using a code, defining words, interpreting fables, etc. The scores are used to establish the person's *mental age*, and comparison with normal scores and the person's actual age leads to the *intelligence quotient* that is the indicator of whether mental deficiency is present or not.

Of more recent development, but likely to be of increasing importance to psychiatry, are the tests that purport to estimate the *emotional reactions* of the individual and his attitude towards the different aspects of life—tests to measure stability, aggressiveness, caution, honesty, altruism, prejudice, and so on.

Type Psychology

The sum total of a person's mental reactions—his personality—is, of course, peculiarly his own, but in so far as there are numerous traits which he shares with many but not all of his fellow-men, it is possible to place him in a certain group or class. This grouping of people according to their personality has been carried out in various ways by many authors and is of considerable use, but unfortunately no short review of these type psychologies could be adequately

attempted here, so one example only will be given, that which emanates from Jung.

He ascribes to man four principal mental functions ; it is by means of these that man adapts himself to his environment and regulates his behaviour, these functions being *thinking, feeling, intuition, and sensation*. Incidentally, as will be readily seen from what follows, these terms are not used in quite the sense that we have described earlier.

"It must be recognised that all these functions are present in everyone but that there is always a tendency for one of them to dominate the personality. Feeling and thinking are higher functions, more recent in development and essential to 'rational' conduct. For conduct to be rational (in the sense that Jung uses the word) it must be based on discrimination and weighing up, on an ascribing of values to the various items under consideration ; and it is because such evaluation can be based on feeling as well as on thinking that we have two 'rational' types. Intuition and sensation, on the other hand, are lower, less evolved, and less clearly conscious functions. Intuition might be compared to a not clearly realised guesswork form of thinking. Sensation is a primitive form of feeling into which enter none of the higher complex emotions ; it is, rather, feeling brought down to the level of mere sensing. As these functions go thus in pairs, thinking being directly opposed to feeling and intuition to sensation, it follows that for any function to become dominant its opposite must first be largely inhibited and repressed. A brief description of these types might be helpful :

"A. THINKING TYPE. This is found more frequently in men than in women. Thought and reason are the guiding principles of adaptation, and the individual is usually a staunch believer in formulæ. We recognise in him the man of principles, who has a carefully reasoned code of conduct, and for whom there is no situation that cannot be met by means that have all been thought out beforehand in the abstract. Such a man is often held up by his acquaintances as a model of integrity and uprightness on account of his being so evidently reasonable, but he nevertheless tends to make his own home a miserable one. His principles are so rigid that he has no tolerance, and all have to do his bidding ; he is unable (because he has repressed feeling as a function) to attain any degree of emotional attunement with his intimates, and no home is kept together by reason only. His conduct is too systematised and his attitude too impersonal ; his feelings are slight and, rather than spontaneous, they arise merely because the situation seems—that is, is thought—to justify such an expression of emotion.

" **B. FEELING TYPE.** Here the individual—generally a woman—is in such emotional contact with the world that she responds through feeling. All the evaluating and judging that she does (being a 'rational' type) are based on her feelings and not, as in the previous type, on thinking. To her the outer world is so important and has such a hold over her that her feelings are apt to conform to certain patterns laid down for her by herd standards. Thinking as a function is not absent but it follows far behind in the wake of feeling. As a lady of this type once remarked, on being asked to accept the reasonableness of a particular line of thought, 'But I can't think what I don't feel.'

" These, then, are the two rational types, and in these, whichever function predominates, the other is partly repressed; thus, the thinking type represses feeling, and the feeling type thinking.

" **C. INTUITIVE TYPE.** This type occurs in both men and women. Intuition is the guide for focussing the gaze. Discrimination and judgment do occur, but not in order to determine conduct; they are merely means to justify to others what has already been adopted spontaneously. Intuition appears as a kind of primitive and instinctive thinking; it does not obey the laws of ordinary logic, and the intuitive character is urged towards the adoption of any and every *possibility* as a definite *probability*. Such an intuitive will see possibilities far in advance of the thinking type who plods along by dry reasoning. He will be for ever running after wonderful schemes, and day by day he will seem to have reached the turning point of his career; but just as he will run wild over one possibility to-day, so will he, to-morrow, abandon it for another. Some of the national characters of the Irish are due to intuition. The intuitive makes a good speculator, agent, company promoter, and has the enthusiasm to be a great leader—for a while—but he has no staying power; any success he may achieve is due to 'seeing in a flash' what reason cannot yet perceive and if he does not happen to embrace a career where change, ambition, and ingenuity have ample scope, he will fail miserably.

" **D. SENSATIONAL TYPE.** Here we have a type, present mostly in men, that accounts well for the country squire of the last century. It is a type that is less marked now but is still far from extinct; we might almost call it the conventional type. He is swayed, and adapts himself, by his sensations, and the decisive factors for him are those events that procure such sensations; for instance, a day's hunting or shooting, a good dinner, a glass of port or a cigar. All the little happenings that to others are just unessential trimmings, to him loom large and important. He is eminently sociable but, owing to his lack of emotion, his attachments are never deep and he flirts rather than loves.

These sensationals are realists; they do not judge and evaluate, and they are therefore unable to fashion for themselves a code of moral conduct. As a result, their whole ethics consist of 'what is done' and 'what is not done,' and convention becomes the keynote to morality. They obey the commandments that others do, especially the eleventh—Thou shalt not be found out.

"These are, then, the two irrational types, or empirical as they have been termed. They may be reasonable, but it is quite evident that in them judgment cannot keep pace with the other functions; it lags behind, and is never a decisive factor."*

When considering these different types, we must each one of us remember that none of these types can legitimately be looked upon as "wrong" or "odd," although we might tend to look upon in that light any type which does not correspond with our own. It means that we should deal with other people, including patients, according to their type. It is, for instance, of little use reasoning with the sensational type, or appealing to the feelings of a thinking type. The mere *possibility* of a certain event happening will hold little sway over a thinking type—it is reasonable *probability* that counts with him; but even the most improbable possibility will start an intuitive racing after or away from it as the case may be. In the sensational type, what we must appeal to is his sense of the conventional and of the customary, because he is the one who is so likely to be afraid of being different from others in his own circle.

Again, an intuitive who makes a bad servant may make a good master, because he turns his gaze in ever new directions; he instils keenness into others. True, he soon tires and looks elsewhere, but he may have left behind him others to carry on the work while he brings his enthusiasm to bear upon some new subject. Incidentally, the above descriptions have been of well-defined types, but in many people there is a more even balance of functions, which results in the types being less extreme.

We have now completed our brief survey of psychology, at least as it applies to the normal mind, though what is a normal mind is not easy to say. All the minor differences between one normal mind and another are just those that, if present in extreme forms, would be the mark of an unhealthy mind, and it is well-nigh impossible to state exactly where the line that separates health from illness should be drawn. Indeed, it might be well to use "average" instead of "normal," because we often find an unnatural behaviour (e.g. regular drinking of whisky as a night-cap) which is quite common, whereas many forms

* From *Psychopathology* (fourth edition).

of quite natural conduct (e.g. fighting all those whose appearance we dislike, like cat does dog) are uncommon. In any case, we must always bear in mind that what is the usual behaviour of one group of people is by no means that of another group of a different race, country, or upbringing. The main point about an abnormal or unhealthy mind is the fact that it is ill-adapted to its environment, and that it is this failure of adaptation that provides the basis for the mental illness.

Part Two—Psychopathology

Chapter One

CAUSATION OF MENTAL DISORDER

Relationship Between Bodily and Mental Illness

PHYSIOLOGY is the study of bodily processes in health, and pathology is concerned with bodily processes and symptom formation in illness. Similarly, psychology being concerned with the study of the mind in health, psychopathology is the study of the abnormal mind, and of the production of the symptoms that characterise it. Psychopathology is therefore concerned on the one hand with the *production* of a mental breakdown and on the other with the *explanation* of the symptoms.

In the first place, it is a little questionable whether, in speaking of mental disorders, we are not too inclined to regard them in a class of their own. If the human organism is—as many believe—a complete and indivisible unit, then any illness is an illness of the whole organism, an illness that is not so much mental or physical as one that has mental and physical *aspects*. True that in some instances the mental aspect vastly outweighs the physical one, that in others the reverse holds true, and that consequently we speak of two classes of diseases. Yet, while this may be convenient for descriptive purposes, it should not close our eyes to the danger of neglecting the bodily factors in what we term mental disorder, and still more of perpetuating the neglect of mental factors in bodily illness that is still only too prevalent.

In the second place, because we see—or should see—these two aspects of an illness, it is very difficult at times to say when the physical disorder has caused the mental symptoms, when the mental cause has led to the bodily disease, and when mental illness and physical illness merely coincide.

Thirdly, there are various ways in which the one may affect the other. Thus, a bodily disorder may (1) wholly cause a mental trouble; (2) assist in precipitating a mental trouble that was already lurking because of past mental stresses; (3) modify the form of an existing mental breakdown; or (4) aggravate an existing mental breakdown and cause it to become more acute.

All this means, therefore, that while we shall here have to review this question of causation along lines that, in order to remain fairly elementary, will have to be somewhat conventional, we should always be prepared to recognise that the relationship between mental and physical factors is much more complex and reciprocal than would appear from any simplified version of the problem.

Predisposing and Precipitating Causes

The factors that contribute to the production of mental disease may act in one of two ways: either by laying the foundation for mental abnormality or by producing the final stress that proves more than the individual can bear. Therefore we must recognise as causal factors those that produce a *tendency* towards a breakdown and those that determine its *onset*. The upset of a mind may be likened to that of an apple cart: the cart may overturn because of running over a big stone, or over a heap of small ones, or it may run over a succession of medium ones, the first of which merely causes the cart to rock, the last one leading to the final crash. But, in so far as many other carts have passed over the same road without mishap, it may be assumed that the one that does topple over must have been top-heavy to start with; this top-heaviness may have consisted of either one massive overload, or else a number of little ones. The overload would correspond to the predisposing cause or causes, and the stones encountered on the road to the precipitating ones. We see, therefore, how many small causes, simultaneous or consecutive, may have the same effect as one big one. Further, it is obvious that the greater the predisposition, the lesser the strain which will determine a breakdown, but given a sudden, big enough stress, then a breakdown may occur in spite of the predisposition being slight.

As a rule, the predisposing causes are those that operate long before the onset of the mental illness, while the precipitating ones are those that more immediately precede it. Each patient has, however, to be viewed as an individual case, and some breakdowns are produced by long-standing mental stresses that precipitate the onset through sheer persistence, and are not associated with recent causative factors at all. Again, what may be regarded as a predisposing cause in one patient may prove the precipitating one in another.

Physical Factors

On the whole, the various physical, or *physiogenic*, causes may be either predisposing or precipitating, though the ones showing themselves in early life are more likely to be the former than the latter.

HEREDITY. While it is obvious that no child can be born with a ready-made mental disease, there is a common belief that mental illness can be, and often is, inherited. Actually, the illness itself can hardly be handed down, for it to lay dormant for perhaps thirty or forty years and suddenly show itself; much more likely is that what is inherited is a predisposition towards mental disorder, the kind of soil in which mental abnormalities might easily sprout—more easily, that is, than they would in people not so predisposed. When, however, the structural deficiency that is inherited (structure is all that we can inherit at birth, for we have no mind to speak of as yet) is very marked it may result in an inability to develop a normal mind at all. The extent to which the mind falls short of what it should be and the age at which the growth of that mind is arrested by its inherent handicap account for mental deficiency of varying degrees. Mental defect, therefore, denotes a constitutionally undeveloped mind, while mental disease is a breakdown in a mind that had first achieved adult normality.

CONSTITUTION. Constitution, as we said, cannot account for mental disease directly. It is possible, however, that it may determine the *form* of a mental disorder and that certain types of people are more prone to certain kinds of diseases than to other kinds. Much work has been done in this connection but we shall limit ourselves to considering one writer's views only. Kretschmer was one of the pioneers in this direction, and his work on physique and character led him to recognise four main types of bodily make-up and to suggest a definite relationship between these types and the mental disorders they are liable to evince. These types are:

"(a) *The Athletic type.* Strong skeleton, powerful musculature, fine chest, and free neck. Hands and feet large. Biologically this type seems a milder form of the African Negro physique and—going farther back in the evolutionary scale—of the gorilla.

"(b) *The Asthenic type.* The individuals are usually thin and long. The skin is dry, the shoulders are narrow, the arms lean and long, and the chest flat. Viewed historically, this type would seem to spring from the earlier Aryan races, and from the chimpanzees.

"(c) *The Pyknic type.* This one is very different. The body cavities (head, thorax, abdomen) are large, there is a marked tendency to deposition of fat, and the contours of the body are rounded and graceful. The face is soft and broad, the hands short and wide. In many ways this make-up seems to hark back to the Mongol and—in the animal series—to the orang-outang.

" (d) *The Dysplastic group*. This is a mixed one, comprising mostly types that approximate to mild forms of glandular disturbances.

" On the mental side Kretschmer found that, after excluding those most obviously due to acute physical illness or injury, mental diseases tended to fall into two great groups. The first, the *cyclothymic*, comprises the manic-depressive insanities. The disorder is principally in the emotional sphere and is remarkable for its tendency towards rapid though temporary recovery. The personality, although deranged, is to a marked degree unified and is in good contact with the environment. The other group, the *schizophrenic* group, includes the cases of dementia præcox and the delusional insanities. They all evince, to a varying extent, a failure of unity; they appear to be divided within themselves; there is a lack of correspondence between ideas on the one hand and emotion on the other. Kretschmer then extended his two groups to include even normal people who show, in a mild form, those characteristics that, if more extreme, constitute a mental illness, and he called these groups (of normal people) *cycloid* and *schizoid*. The former, the normal cycloids, are recognisable from their sociability, good nature, expression of emotion, and tendency to alternating moods. In contrast to these, the normal schizoids exhibit asociability, dry and unsympathetic outlook, eccentricity and restlessness, perhaps coupled with a brilliant intellect. In the former group would be found such as the gay chatterbox, the quiet humorist, the silent, good-tempered man, the happy enjoyer of life, and the energetic, practical man; to the latter group would belong the polite, sensitive man, the world-hostile idealist, and the cold, masterful type.

" The value of Kretschmer's work in providing us with a convenient system of classifying physique, mental illness, and normal make-up is obvious, but in addition he showed how, in practice, an overwhelming majority of cycloid and cyclothymic types are associated with the pyknic constitution, whereas most schizoid and schizophrenic types evince a physical build that belongs either to the asthenathletic groups or else to the dysplastic one."*

PERIODS OF LIFE. Certain periods and natural events of life are often regarded as being specially fraught with danger as regards the possible incidence of mental disturbances, but it is likely that their influence is often merely indirect. Adolescence, for instance, implies a certain physical instability, owing to the bodily changes that take place at this time, but any mental illness associated with them is just as likely to be due, not to the bodily changes themselves, but either to mental susceptibility towards being upset over these changes (e.g.

* From *Psychopathology* (fourth edition).

shock of first menstruation) or to the mental reorientation that is expected of the adolescent and the assumption of personal responsibility that goes with it.

The climacteric (menopause) may lead to mental trouble because of the glandular disturbances that accompany cessation of menstruation, and also because of the mental stress that many women experience when they are faced with oncoming old age and the relinquishing of their female functions that this implies. Senility, on the other hand, tends to lead more directly to mental failing on account of the general deterioration that comes on with advancing years, though a gradual feeling of loneliness may be a factor in determining mental trouble.

GLANDULAR DISTURBANCES. Over- or under-secretion of any one or more of the ductless glands may have well-marked mental effects, such as the apathy of myxœdema and the anxiety of exophthalmic goitre, the instability of pituitary disease, the irritability and neurasthenic symptoms of adrenal deficiency, or the sensitiveness and irresponsibility of thymus excess. In schizophrenia, marked changes have been observed in the sex glands.

BIOCHEMICAL FACTORS. The relationship between biochemical changes, glandular function and mental states have been the subject of much research, but it is still very difficult to say which comes first : whether glandular disease is caused by chemical changes, or whether chemical changes result from a glandular upset ; whether glandular disease may not as much result from, as lead to, mental trouble. Work on carbohydrate metabolism, nitrogen balance, respiratory exchange, cholesterol, and many other aspects of body chemistry, has already given rise to suggestive results and may ultimately lead to very important conclusions.

CEREBRAL INJURIES. Certain brain injuries, especially those affecting the frontal lobes, may cause disturbances in, or abolition of, mental functions through the destruction of the nerve cells on which these functions depend.

CEREBRAL DEGENERATIONS. Degenerations in cerebral structures, whether due to physical disease or old age, account for such mental disturbances as the character changes found in disseminated sclerosis or in epilepsy, or the simple-mindedness of senile decay.

GENERAL DISEASES. Certain diseases seem specially liable to be associated with mental illness, as instances of which we might mention pernicious anæmia and tuberculosis ; also jaundice and the depression that so often accompanies it.

TOXIC CAUSES. These are very frequent, extremely important, and are of many different kinds. External poisons can be exemplified by

alcohol, morphia, cocaine, ether, lead and arsenic, all of which give rise to characteristic mental changes. Internal poisons may either be absorbed from the bowels or produced in the body (as in those mental disorders due to intestinal stasis, diabetes and nephritis) or, again, they may be the product of infection by micro-organisms. Such bacterial infections may be chronic, as when a hidden infection of the sinuses (frontal, maxillary, and sphenoid) leads to mental trouble or syphilis results in general paralysis. On the other hand, they may be acute, as in the insanities resulting from puerperal infection. Again, the infection may be one of the specific fevers, such as typhoid, scarlet fever, or influenza.

Mental Factors

On the whole, the predisposing mental (*psychogenic*) causes are more often than not associated with difficulties of development, stresses and warpings of the mind that occur during the years of mental growth. The precipitating ones are usually the strains and worries peculiar to adult life. The division between these groups is not sharp, however, and what may be a predisposing cause in the illness of one person may be a precipitating one in that of another.

PREDISPOSING CAUSES. It will be useful if we refer here to one of the main theories of certain modern schools of psychology. It is claimed that during the mental development of childhood numerous tendencies can be found that, if persisting into adult life, may lead to a behaviour that is definitely abnormal, even criminal, and it is due to education that these tendencies are not normally evidenced once development is complete. We might give as an illustration the presence of death wishes in a child, directed against a relative. It is not unnatural for a child who rebels against parental prohibition to wish for the death of that parent; not, of course, to wish for his death in the way we, as adults, understand it—the child has no proper conception of death—but merely as a removal or an absence. It is natural for a rival brother to be felt in the way, as an object to be removed, and while the child cannot actually and openly remove the resented brother, it can, and often does, so remove him in its dreams, its phantasies, even its play activities. Thus a little girl, very jealous of her brother, would play at making drawings of herself, of her home, and of her family, but without ever including a picture of her brother. When asked about this, she replied quite casually, "Oh, he's dead." Later, when her resentment had passed away, the brother reappeared; he was once more acceptable.

When considering these developmental phases of childhood we must bear two facts well in mind. Firstly, these childish wishes and urges are as yet largely unformed, they are infantile, and though we may give them the same names as the adult manifestations into which they may sometimes grow, yet we must neither expect to recognise them, nor should we assess them, in the way we would their adult counterparts. Secondly, these desires and wishes are largely or wholly unconscious; the child itself is not clearly aware of them, and it is only by the subtler methods of psychological analysis that their importance can be fully demonstrated. We shall have more to say about these unconscious trends later but, in the meantime, we can summarise the position as follows:

The task of education, in the broad sense, is to convert the "naturally abnormal" tendencies of the child into a socially approved adult behaviour. Often this is accomplished without too much difficulty; the "wrong" or undesirable tendencies become inhibited and substitutive interests are found elsewhere. However, things may not always proceed as smoothly and three kinds of important reactions may ensue.

(1) The manner in which the child is handled and the absolute finality with which restrictions are enforced may lead to a sense of *inferiority*, of incapability, of helplessness.

(2) The tendencies that are being repressed in the child may yet persist in the unconscious mind, and there will still be endowed with considerable energy and urge. The child may then seek some satisfaction for its concealed desires and may find it in its dreams, its phantasies and its play. But in doing so the child may develop a definite sense of *guilt* from having thus imagined the realisation of what is forbidden.

(3) An *aggressive* reaction may be evinced against the parent or authority responsible for the imposing of the prohibition. Further, if an unconscious desire for the removal of that parent results and is expressed in phantasy, a sense of guilt will follow. As an instance of such an aggressive reaction might be mentioned the case of a young girl who took to pilfering every kind of article she could lay her hands on, most of which were not of the slightest use to her. Later on during the investigation of her case, she admitted having done this "to make her mother mad." In other words, it was a way of asserting herself and getting a revenge on an unkind and resented mother. When her attitude towards the mother changed, there was no more pilfering.

These reactions of inferiority, of aggression and of guilt form a foundation for the development later in life of abnormal behaviour, especially so if, once formed, they are further reinforced by various

family situations and by further influences occurring at a later age. As an example of a family situation let us take the case of a frigid mother, whose love-life has been evidently arid and unsatisfactory. There are two ways in which she may react to this privation. She may evince a resentment that is likely to make her harsh and unsympathetic to her child, and particularly nonunderstanding of the first awakening in the child of sex tendencies so poorly satisfied in herself. On the other hand, she may make up for her own lack of outlet for her love tendencies by so smothering the child with affection that it is hardly allowed to develop an existence of its own. In either case, the result in the child is likely to be an increase in its sense of inferiority. Again, trouble between the two parents may lead to the child taking sides, to backing the one while being antagonistic to the other, this antagonism ultimately leading to guilt, as we have seen before. Or a last and unwanted child may easily be made to feel superfluous and in the way, so that it may react by compensatory aggression. Scores of other examples could be given that would illuminate the less successful aspects of family life, a life that owes many of its failures to the too intense emotional reactions occurring between its different members and to the interdependence of each upon the others. It is interesting to note how, in certain primitive societies, children are brought up in a more free and casual fashion, with less strict prohibitions, under the authority of groups of adults instead of the usual two parents only. And in these societies we not only observe much less tendency towards the production of violent and extreme reactions of hatred, guilt and inferiority, together with a much less stormy and danger-fraught adolescence than in our civilisation, but we find very little neurosis or insanity.

But to come back to our main theme. We have seen how in earlier stages of development reactions of inferiority, aggression and guilt may occur, and how these unconscious reactions may be reinforced by particular family situations and by the personal mental stresses and difficulties of the parents. Now let us look at the child at a later age, say about puberty, when it is more rational, more capable of being influenced by reason and open argument. Here, again, we find the possibility of older, unconscious reactions being added to, though this time consciously. For example, inferiority may be impressed upon the child, perhaps through too marked an emphasis being placed upon some particular scholastic failure at the exclusion of other directions in which the child may be quite efficient. Aggression may be increased by stressing unnecessary and futile forms of rivalry. And last, but not least, the child is only too often impressed with its

own wickedness and sin. We might still disapprove without, for all that, inculcating a sense of ineradicable guilt, and even if we do blame a particular act we need not include in our horrified condemnation that perhaps perfectly healthy tendency prompting to the act. The urge may be worthy and only the act unwise or unsanctioned—what we call wrong. An older child is quite likely to react normally to an adverse criticism of his acts, but not to a labelling as wicked of his most natural instincts. He can understand that there are forms of behaviour of which society disapproves; he can grasp the fact that his acts can be controlled; but if his fundamental human urges are to be looked upon as wrong and sinful, then no wonder his sense of guilt is increased.

PRECIPITATING CAUSES. Having followed the child into manhood, we come now to the precipitating causes. These are all the intolerable situations and stresses that more or less immediately precede the mental breakdown. We have the worries consequent upon financial crashes, poverty, unemployment, and destitution; also those associated with warfare. We have, too, the stresses inherent in our emotional relationships with other people, to say nothing of those consequent upon grief at the loss of loved ones. To go into more detail as regards these causes would be unnecessary, as they are all too obvious and common.

Mental Illness and Mental Symptoms

The various causes mentioned above, whether physical (*physiogenic*) or mental (*psychogenic*), are rarely likely to operate singly; as mentioned earlier, most mental illnesses have several causes, precipitating and predisposing. There are circumstances, however, when one cause, and one alone, may account for a mental disorder, the most obvious instance being when a physical injury affects any part of the brain which subserves a specific function. Predisposition or no predisposition, it is inevitable that any destruction of, say, those cerebral centres concerned with thought or with speech should lead to an abolition of those functions.

When attempting to explain any mental breakdown in terms of its causes, it must be borne well in mind that there are two sets of facts to be explained, namely, the *occurrence* of a breakdown and the *form* of a breakdown. For instance, suppose a man grows up with a strong sense of guilt that provides him with a constant though inevident stress, and then he later suffers a serious bereavement in consequence of which he develops a state of acute depression characterised by delusions of sin and unworthiness. The bereavement accounts for the occurrence of the depression, but it affords no explanation as to why

the accompanying delusions are of unworthiness rather than of, say, a stoppage of the bowels (another common delusion in depressive states). It is the early reactions of guilt that account for the form of the delusion, though they have not, by themselves, led to the onset of the depression.

More often than not, the physical factors that are invoked as causes of insanity, while contributing to the understanding of the occurrence of mental trouble, do not determine the form of the illness, and it is at this point that the psychological aspect comes in. Some causes, of course, may account for both occurrence and form, and one of these has been mentioned already—cerebral injury; another instance would be acute toxæmias, for whenever there is a toxæmia of any organ there is a general clouding or suspension of function that requires no further explanation; it is merely a case of "less function" or "no function" (e.g. loss of memory, confusion and stupor), and not one of new and abnormal functioning (e.g. as in delusions).

In order to afford fuller explanation of those mental symptoms that cannot be explained directly by a physical cause we must now delve a little more deeply into the psychological aspect, for obviously the mental causes of symptoms are anything but self-evident, and indeed most of them are unconscious.

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REPRESSION AND SYMPTOM FORMATION

The Unconscious Mind

REFERENCE was made earlier to the fact that many mental processes can, and do, occur without being accompanied by awareness, by consciousness, but it might be argued that if anything occurs in our mind which we cannot directly observe (by introspection), then we are in no position to assert that it exists at all and that, consequently, there can be no proof to support any belief in unconscious mental events. On the other hand, the theory of an unconscious part of the mind is the only thing that will explain certain facts that would otherwise be incomprehensible.

It is to be noted that many mental events occur for which no other preceding or "causing" event could be found—at least not by introspection. The spontaneous appearance of ideas, of emotions, of certain kinds of behaviour, all these are inexplicable unless we assume that there must have been some non-conscious continuity, some means of "carry over" from a past set of mental events, through a period of seeming inactivity, to the sudden occurrence of the spontaneous manifestations. We have to account, also, for the feeling of continuity and sameness of personality experienced after these periods of non-consciousness that are sleep. These non-conscious activities are termed *sub-conscious*.

Under this heading of sub-conscious mind are, therefore, mental processes and memories, desires and wishes, of which we are not aware and which are, at least for a time, "hidden from view." Some of these mental happenings are unrealised merely because our attention is not directed to them at the moment, but by a deliberate act of introspection they immediately come to light. Many of the memories which we have are not conscious because we are not using them just now, but as soon as we care to we can reactivate them and bring them back into consciousness. Thus, I may not be at the moment aware of a certain person's address, but by a deliberate act of memory I can bring it to mind (i.e. to the conscious mind) with ease. All these mental contents which, while they are most of the time unknown to me, can become known to consciousness at will are usually termed *pre-conscious*,

and when we speak of *the* pre-conscious we are merely referring to all such contents as a group.

There are, on the other hand, many mental contents and processes that are not only not conscious at the moment but remain so and cannot be brought to the light of introspection however hard we try, and it is to these that, strictly speaking, the term *unconscious* should properly be applied. We might, therefore, say that the "non-conscious" mind (or aspect of the mind) includes the pre-conscious material which we can recall or realise at will, and the unconscious material which is inaccessible to our awareness.

The reason why any material becomes completely unconscious may be, on the one hand, because the memory connected with it was too faint; the impression originally made was only slight because of inattention or because of the triviality of the event. This is what accounts for our forgetting matters that were unimportant or to which we paid little or no attention. On the other hand, there are many aspects and contents of our mind which are undoubtedly of extreme importance, which it would be of great advantage to us to know, or which could be better controlled and harmonised with the rest of our personality if only we were aware of them; but they seem so surely veiled from our gaze that we would strongly repudiate any suggestion made to us as to their presence. In other words, in addition to what we might term "accidental forgetting," we have to recognise such a thing as "active forgetting," a forgetting that must be active in that there appears to be a force preventing the return to consciousness of this important material, which force must be there to fulfil some definite purpose.

Repression and its Results

The act of purposefully but unwittingly relegating to the unconscious is what is termed *repression*. The material repressed is found to consist of those thoughts, memories and wishes that might prove distasteful to their owner, who thus tries to ignore those aspects of his mental make-up that it would be too painful to recognise. As the purpose of repression is thus to avoid mental discomfort or pain, it is not surprising that the material repressed should so often consist of unethical and "wrong" tendencies of which we might otherwise be ashamed. Repression does not, however, deprive the repressed trend of its urge, of its psychic value; the now unconscious wish remains a dynamic factor. As a result, a state of conflict is established between

the repressed trend and the repressing force. We have already noted that conflicts may occur in the mind; now we must recognise that they may not only occur between opposing trends of which we are conscious but may, in the case of repression, take place between conscious tendencies and unconscious tendencies.

In passing, let us note that repression is very different from another term that is often wrongly used instead, namely *suppression*. If we are aware of a desire the fulfilment of which we consider wrong or shameful, we may merely deny ourselves all expression of this desire; we suppress the conduct that would satisfy it while remaining aware of it. But if we go so far as to ignore the desire altogether, if we, so to speak, pretend to ourselves that we have not got it, if in fact we cause the desire itself to become unconscious, then this is repression.

The conflict thus established between the repressed trend and the repressing force may have various results.

(1) The moral and social standards (these are not always the same thing) that have indirectly been responsible for the repression are subsequently ignored or put aside, and the individual succumbs to his "wrong" tendencies.

(2) The objectionable material may not be wholly repressed and may occupy a narrow field of consciousness, and this may lead to a real *dissociation* of personality. In extreme cases, the patient may have two distinct personalities, one taking the field for a time and then giving way to the other; it may even happen that one personality calls itself by a different name from the other and is quite unaware of the latter—a case of Dr. Jekyll and Mr. Hyde. In a minor form, this is what accounts for the discrepancy between many people's genuine profession of faith on Sundays and their somewhat different conduct during the week.

(3) The more usual and normal result is that known as *sublimation*. This consists in redirecting the energy bound up in the repressed tendency into new and morally acceptable channels that still express the general trend. An example of this would be the way the old maid may repress her desire for children but finds a substitutive outlet in the care of cats or other pets. Another form of sublimation might be the obtaining of satisfaction by witnessing the very behaviour in which we ourselves desire to indulge; there is, on the other hand, the satisfaction afforded by subjecting oneself to the action we unconsciously desire to perform on others, such as accepting cruelty instead of inflicting it on anyone else, or turning on to oneself hostile desires against others so that suicide may result. Again, there is the deriving of satisfaction from thinking about, in the abstract, those things which

we unconsciously desire in a concrete form. These various forms of sublimation are all so many ways of satisfying a tendency of which we are not aware by conduct that has just that degree of similarity with the forbidden behaviour that it acts as a satisfactory but blameless substitute.

(4) *Symptom formation* occurs when sublimation is absent or inadequate, and then the repressed material is allowed an outlet provided it is so distorted and disguised that it is not consciously recognised for what it is. These symptoms may be mental equivalents for the repressed tendency, or they may assume a bodily form. For instance, the repression of a sense of inferiority and of the corresponding desire for importance may be expressed as a delusion of being followed by all the secret police of the country; consciously, such police attention is strongly resented, but unconsciously a certain amount of satisfaction is derived from the implication that one must indeed be important to become the subject of such wholesale persecution. Hallucinations of voices talking about one might achieve a similar purpose, as do delusions of wealth or of exalted position. Again, the patient who loudly (and genuinely, as far as she knows) complains of men getting into her room at night is only obtaining an unconscious satisfaction of a kind to which she would never subscribe consciously. We know, too, of the lady who believes everyone is in love with her. This last instance is a kind of imputing to others what we do not admit in ourselves, just as the man who is afraid to face his social inferiority suspects the social standing of everybody else. This "passing on to others" of one's attitudes is termed *projection*.

(5) It may happen, however, that in order to reinforce the repression *reaction formations* occur, as when a conscious trend is over-accentuated to cover up all the more successfully an exactly opposite but unconscious one. We recognise such a situation in the lady who, not content to assume to herself an attitude of *indifference* towards a sex life which she unconsciously desires, develops an apparent *hatred* of all sex matters, so violent a hatred that she spends much of her time sniffing out and condemning furiously all the instances of sexual irregularities she can discover in her surroundings. In this instance, of course, a degree of satisfaction is obtained from thus interesting herself in the very conduct which she unconsciously desires.

(6) A minor degree of expression of unconscious wishes and trends is often found in all the little peculiarities, errors, slips of the tongue, and other mistakes of everyday life. Thus we are more likely to forget doing what we unconsciously dislike than those things which we enjoy—or even those which we *know* we dislike, because in that

case the very knowing of what we would like to forget in itself prevents us forgetting. We might, too, mention as an example our inadvertently calling by her maiden name a lady whose marriage we secretly deplore; we thereby treat her as though it had not taken place, thus expressing more than we consciously intend. Then there is the case of the patient who was unconsciously worrying about how to pay the doctor's fees and who said to him, "Oh, don't give me big bills because I cannot swallow them." She consciously meant to say "big pills," of course, but her unconscious gave her away.

(7) A very important class of manifestations that owe their origin to the unconscious is that of *dreams*. While various physical stimuli such as noises, movements or internal sensations are generally conceded to play a part in the causation of dreams, they do not explain the dream content. Actually, the dream pictures generally relate to things seen or thought of during the preceding day, but even this explanation is incomplete for it does not account for the selection of the material or its subsequent distortion. There must be a reason why we dream of this rather than that event from the previous day's experience, and why the event, even then, appears somewhat different from what it actually was. The reason is that the images selected for dream use are so related to trends and desires we have repressed that they are used to express, in a disguised form, what we dare not express directly; the dream pictures stand for unconscious material much as a code expresses a hidden message.

An example, necessarily brief, may help. A lady dreamt that "she was on a cliff and was pursued by a horse, and that she and the horse jumped off the cliff and swam towards a ship painted blue." This lady was most absorbed in her professional work and was always ready to state that marriage was not for her. She had had attentions paid to her by a man whom she professed to dislike, although he had a good position in the colonies and was very anxious that she should marry him and go out with him. This man was extremely keen on polo and a great judge of horses; indeed, his conversation was mostly about horses, and also about his breaking-in of them at his home which was on a little island which he referred to as his "blue isle." The dream obviously suggests some trend in the lady's mind of which she was not conscious. The horse stands for this man, owing to his being so associated with horses in her mind. The fact that this horse catches up with her and that they both together jump off into the sea obviously represents this lady going away with the man by sea, and the blueness of the ship was associated in her mind both with the "blue isle" residence of the man, and the fact that he usually travelled out by the

Blue Funnel Line. The dream showed that unconsciously this lady was much nearer caring for that man than she knew consciously; indeed, it is interesting to note that some three or four weeks after relating this dream quite innocently one evening after dinner, she impulsively married the man, gave up her job and went out to the colonies with him. We see here what we so often find in dreams and in certain symptoms and delusions; namely, an element of wish-fulfilment—the satisfaction of a repressed desire.

These dream pictures, then, stand for repressed images, they act as *symbols*, and the interpretation of the dream rests in finding out what each symbol stands for. Some help in this connection is to be found in the symbolism occurring in those dreams of the human race that are preserved for us in mythology and folk-lore. Symbolism has little changed throughout the centuries and the material repressed in an individual is much the same as has always been repressed by Man collectively. Hence, there is a close analogy between dream symbols and the racial symbols found in folk-lore. For example, the sea is often a mother symbol, and a poetical expression of such symbolism is found in the lines of Swinburne :

" I will go back to the great, sweet Mother,
Mother and lover of men, the Sea."

We see, then, how many of the springs accounting for our actions may be unconscious ; we may, and often do, account for the resulting behaviour by giving spurious reasons—in fact, by rationalisation. A word of warning might, however, be useful here, because it does not always follow that while the unconscious motive is the cause of the behaviour the conscious reason given by us is always a false one. We know that motives may conflict with one another, but they may equally well reinforce one another. Indeed, it is quite likely that many an action would never have taken place from a single cause, and the reason why it took place at all was on account of its providing a satisfactory outlet for *several tendencies simultaneously*. Therefore, the conscious reason for doing something need not always be a " blind " for an unconscious motive ; it may be a true motive that merely reinforces an unconscious one.

For instance, if I am called out at night and decide to go and see a patient at great discomfort to myself, I might say I am activated by a sense of professional duty, or by a feeling of sympathy for a fellow creature. Others might say that what really urged me was only a personal attachment to the pretty and charming patient, or my fear of losing my reputation as a conscientious doctor. Again, it might be

thought that the desire to pose as a martyr to duty, or the chance of charging a big, fat fee, was what was really behind my noble sacrifice. But why should it be expected that only one of these motives was the true one? They may all have been operative, perhaps in varying degrees, and it may not be a question of one motive at the exclusion of the others so much as of several motives all acting together. We may, of course, be inclined to ignore consciously the more shameful motives while focussing our gaze on the lofty ones. We often quite truthfully explain our behaviour to ourselves and to others as due to wishes and desires that are most worthy, and therefore very conscious, while remaining unaware of the other—perhaps very potent—motives that are much less worthy and which we thus successfully conceal from ourselves (though not always so successfully from other people).

Analysis of Symptoms

Any attempt at unravelling such mechanisms as dreams, symptoms, etc., in an individual patient entails a very complete analysis of his mind. The conscious part of his mind can readily be described by the patient himself, given time, but the bringing to light of what has been for long unconscious is a more difficult matter. The analysis of dreams and of symptoms is a very effective method, and this is largely carried out by *free association*. We have seen before how ideas associate with each other, so that starting from any point our thoughts tend, if left free and not consciously directed according to a particular task in hand, to pass from association to association. Thus, if I start with the idea of "pen," my successive associations might well be "letter—post—newspaper—war—wounded—hospital." Supposing, however, that I had a brother George wounded in the war and that I was doing my best to hide from myself (i.e. repress) my worry at his misfortune; I might not, then, allow my thoughts to roam in the direction of "war—wounded—hospital—George," and I would unconsciously divert the stream of association into another channel, for example, "war—peace—reconstruction—housing—etc.," until my thoughts were safely away from the dangerous topic.

Now, by starting from his symptoms or from the various items in his dreams, a patient letting his mind roam as freely as he can will recall, association by association, the hidden contents of his mind. At first he tends to avoid certain associations, as I do when I do not want to face the distress I feel about George, but gradually, with time and practice, his associations will be freer and will link up with the emotionally-charged, unconscious material; by linking up with it

they will tend to bring it to light bit by bit. Of course, in the severer forms of mental trouble there is to be faced the difficulty consequent upon the unco-operativeness and the inaccessibility of the patient; if he will not respond, little can be done to help him by analysis.

Another way of bringing to light repressed material is by hypnosis and the relinquishing of conscious control it entails. Unfortunately, however, the lost memories elicited under hypnosis are often re-forgotten after waking.

The process of bringing up to consciousness what has been repressed is the core of any *analytical* form of mental treatment. If a symptom is the abnormal and distorted expression of something repressed, then once that something has become conscious and is no longer repressed, no symptom can serve any purpose. Since symptom-formation is to express yet avoid recognition of what we wish to ignore, then as soon as we cease to ignore we no longer need symptoms. True, the conflict between what we have repressed and what in us caused the repression will still exist, but it can now be solved on a conscious plane, by clear decision and wise compromise, and not by a repression the results of which are evidently beyond our conscious control. By repressing and thereby hiding our discreditable desires from ourselves we yield ourselves to their effect far more completely and uncontrollably than if we retained a clear realisation of them—unless, of course, we sublimate them in a normal and effective manner.

Amongst the memories brought to light during analytical treatment may be some connected with past shocks and stresses which would have led to disturbed emotional conduct at the time but, because repression was resorted to, the emotional reaction was never adequately expressed and it remained "bottled up." As a result of bringing into consciousness the memory of such shocks not only is useful self-knowledge achieved, but an opportunity is obtained for expressing verbally and otherwise the emotional reaction that we never expressed in the first place. This belated expression of a repressed emotion, this unburdening, is what is termed *abreaction*, and by thus abreacting or working off the effect of an old shock the internal mental tension is considerably eased and the unhealthy result of a faulty repression partly nullified.

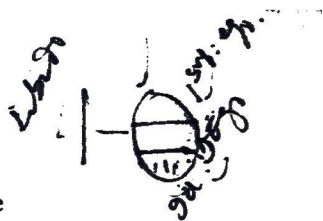
The above refers, of course, to faulty repression, and we must never forget that repression followed by adequate sublimation is perfectly normal and is essential to civilised conduct. If we did not transfer the energy behind unworthy desires into new channels we would never develop all those higher pursuits that, in the first instance, we take up as a substitute for more primitive behaviour. Nor should

we lose sight of the fact that if sublimation fails and symptoms arise through the repression of a wrongful wish or tendency, the remedy does not lie merely in now expressing what was hitherto repressed, because this would probably mean switching over to repressing our rightful tendency and this would only lead to the same old conflict reversed; only wise compromise can lead to a solution and a satisfactory readjustment.

It often happens that during his period of readjustment a patient requires help, but a word of warning might not be out of place in this connection. The patient will largely be guided by his ethics and sense of moral values, and if his values are nearly non-existent or of a very inferior kind it may become necessary for him to be assisted to acquire some more adequate ones; in other words, he may require moral re-education. When, however, he has already a sense of values that is well developed and implies high ideals, then he must be allowed to readjust within the framework of his usual morality, in accordance with his personal moral outlook. However much we as individuals might in such a case happen to disagree with his moral views—and, perhaps, with his religious ones too—we should be very careful not to argue against them but to accept them as the right and proper basis upon which his future conduct should be established.

Only when we are sure that a particular code or ideal is the result of something abnormal within the patient, and one which hampers his readjustment to reality, should we venture to tamper with it, and this only after mature reflection. Otherwise, precipitate action in this direction may well result in the patient relinquishing one moral outlook without really securing another; he would be left to "paddle his own canoe" with neither compass nor rudder. Apart from the difficulty of deciding who is entitled to pronounce what is "right" and what is "wrong," it is certain that as long as it is adequate and is not warped by his mental illness the patient's own code, the one he has carried with him all his life, will stand him in better stead than any other, new to him, which he has but ill understood and which, in consequence, has little compelling value.

Coming back to our main topic, the interpretation of mental symptoms, we should now give a brief consideration to the main schools of thought on the subject, each of which has special theories on which its explanations are based.



Chapter Three

PSYCHO-ANALYSIS (FREUD)

The Sexual Theory

THE most important school, the one which has exerted the profoundest influence upon modern psychopathology, is the psycho-analytical one founded by Freud.

The word *psycho-analysis* means two things ; on the one hand it stands for a particular method of investigation, the method that relies on an analysis of the patient's mind ; in this it agrees with many other schools. On the other hand it also entails the interpretation of the results of analysis in the light of certain definite theories that differ from those of other schools, and it is these upon which we must now briefly dwell.

Freud considers that the mind is primarily activated by primitive tendencies that are constantly seeking expression, but these tendencies come into conflict with the environment, with society and its demands. Consequently, the part of the mind which, because it is conscious, is directly under the influence of the environment, in contact with outside reality and can therefore learn by experience and education, gradually comes to control the primitive tendencies and regulates the expression that should be allowed them. The primitive force that is thus being controlled Freud has termed the *libido*, and the conscious self in contact with reality, which learns to be civilised instead of remaining primitive, is called by him the *ego*.

The primitive libido, the urge that is always struggling for expression, is, in Freud's view, sexual, and he tends to look upon all human behaviour as an expression of this great force, sex. Of course, his use of the term is quite evidently very different from what is regarded as sex in everyday parlance. Not only does he regard as sexual all the sensual activities usually so-called, but also all those sensual tendencies that may be found in sex perversions, and all those trends that were once sensual but that, through sublimation, have become diverted to non-sensual aims. He also includes under this heading all the mental aspects and accompaniments of sex, all that is love and hate, all that enters into the parental sentiments—in fact, all that urges human beings to form emotional relationships with each other—and this he does because he believes that all ordinarily termed non-sexual activities are merely modified forms of what was primitively sexual.

Such a conception of sex is, therefore, something very much vaster than is usually understood by that term; actually, it more nearly approximates to what we might very broadly call love. We know that love is itself complex and includes both a physical, sensual (*erotic*) element and a strong mental component, so that love minus the mental component is sensuality, and love minus the erotic factor is affection. We must therefore understand sex (as used in psycho-analysis) as a great "sentiment"—a "major" complex—a convenient class name under which can be grouped all those primitive tendencies that are essentially sensual (including their mental counterparts and their derivatives) and that are so often and readily used in the service of what is usually called "love."

Child Development

The psycho-analytical explanation of symptom formation leans heavily upon Freud's theories concerning child development. The primitive mind of a child is at first wholly instinctive, its only mode of adaptation consists in the avoidance of pain, and its aims are generally the pursuit of sensual satisfaction. Part of this psychic system, through the growth of consciousness and awareness of the environment, comes to establish such a contact with the outside world and its demands that from this primitive system there develops a second system, one that becomes adapted to the demands of reality and able to forego pleasure and endure pain. This second system—the ego—learns to reason and control, generally speaking to become intelligent, and it has for function the controlling of the first system that is all pleasure, sensuality and unrestraint. The ego is thus the repressing agent that either adapts the modes of expression of the libido to the standards of the outside world or else represses the libido completely. It may be said that while the first system obeys the *pleasure-pain* principle the second follows the *reality* principle.

It is to be expected, therefore, that the story of child development is largely the story of the modifications of sensual expression brought about by the ego. The child's sexual instincts—we are still using the word as understood by Freud—are very primitive at first and it is only gradually that they become differentiated into what will ultimately become adult sexuality.

The development of the sex urge can be viewed from two angles. Firstly there is the question of the distribution of sexual sensuality (or *erotism*) over the body, and secondly the choice of an object on which to focus the sexual aims.

A. DISTRIBUTION OF EROTISM. It would appear that at first the infant's sensuality is very vague and very widespread; it affects the whole cutaneous surface of the body, though it soon becomes concentrated in a few specially sensitive areas termed the *erogenous* (capable of erotic feeling) zones. After the first stage—that of unorganised pleasure—come the next two, during which the first zone to become endowed with definite organ-pleasure comes into prominence: the mouth. During the stages of oral erotism (mouth sensuality) two opposite trends succeed one another. During the early oral phase there is a tendency to retain and to incorporate all objects brought in contact with the mouth: a "constructive" phase. In the late oral period is evidenced the tendency to tear, break up and cast away: a "destructive" phase. It is during these phases that are found the beginnings of a cruelty tendency which may later manifest itself as sensual pleasure derived from inflicting pain (*sadism*), or from suffering pain (*masochism*). In adult life, sadism is often expressed as part of a love situation—hence the distress of the lady who concluded her husband had ceased to love her now he never beats her on Saturday nights!

Next, erotism becomes shifted to the perineal zone and for a while is concentrated in the region of the anus. This anal sensuality again has two phases, but in the reverse order from that which obtained in the case of the mouth; the destructive phase is first and the retaining, constructive one, second. Finally, all sensuality becomes largely centred in the genital region. After the earlier (oral and anal) stages have been passed through the child enters the "latency" period, lasting till the onset of puberty, when the oral and anal stages are briefly reactivated before adult sexuality is reached.

Sexual development then, viewed in relation to the regions of the body that may be charged with sex feeling, can be divided into six phases, (1) unorganised, (2) early oral, (3) late oral, (4) early anal, (5) late anal, and (6) genital.

B. CHOICE OF LOVE OBJECTS. At first the child has no objective outlook at all; nothing is recognised as definitely not-self and therefore even the self seems to have little real actuality. This is the stage during which the child's activities are *auto-erotic*; it seeks sensual satisfaction on itself, though it has no clear realisation of that self as an object. Later, however, it does regard itself as an object of sexual interest, as a "thing" that exists apart from other "things," and while it is erotically absorbed in itself in this way (we might say in love with itself) the child is termed *narcissistic*, from the story of Narcissus, the youth who spent all his time admiring himself in the waters of a lily-pond. This self-admiration tends to express itself as

a showing of himself, displaying his body (*exhibitionism*) and seeking the approval of all around. Later still, he directs his sex interest to other people, but at first he tends to select people like himself, and this is the *homosexual* stage. Finally he learns to interest himself sexually in people unlike himself, in the other sex, and thus achieves the adult *hetero-sexual* stage. The successive periods of development are then (I) Objectless, (II) Object love, which is first (a) love of self, then (b) love of others, this love being (i) homo-sexual, and later (ii) hetero-sexual.

Whether we consider the stages of sensual development (A) or those of object love (B) we see, of course, that there must be successive changes of attitude, a passing from one stage to the next that implies some successful disposal of one kind of interest before the next one can come into being. For instance, love interest in one's own sex must pass away somehow if we are to develop any capacity to love members of the opposite sex. This of course means repression and subsequent sublimation: that is, the converting of the expression of a sexual trend from the form that is "inadvisable" or "wrong" into another more legitimate one. This entails what might be termed a *desensualisation* of the original tendency. Thus, when the homo-sexual stage passes into the hetero-sexual one, what happens is that the homo-sexual love is desensualised and becomes non-sensual interest in one's own sex. As we saw before, love minus sensuality is affection, and according to the Freudian school this desensualisation of homo-sexual interest leaves behind the affection that forms the basis of the social feeling found between adult members of the same sex, while the sensual component is freed for the development of normal, hetero-sexual love.

Sublimation similarly accounts for the earlier passing from love of self to love of others. When narcissism fades away, the sexual interest in the self becomes converted into a non-erotic one, leading to the normal interest in self that is so often excessively expressed in adolescence as foppishness and conceit. A natural corollary of the above is that in so far as interest in the self must be largely relinquished before interest in others can be fully developed, it would appear that the total amount of interest at our disposal is constant, and the more interest we apply in one direction the less is there any left for other purposes.

C. OTHER ASPECTS OF CHILD DEVELOPMENT. There are two other aspects of child development to which we should give a passing glance. The first is concerned with the attitude of the child towards its parents. There is no doubt that the parents assume an enormous importance in the child's eyes, because the mother tends and provides for the child while the father teaches and protects it. The time must come

however, when the tie between parents and offspring must be gradually loosened (and not suddenly snapped by force of circumstances), and in detaching itself from its parents the child tends at first to transfer its subservience onto people like the parents; like them perhaps in appearance, but much more usually like them in the function they perform and in the relation in which they stand to the child. Hence it is common for the child to transfer its feelings of dependence on to uncles or aunts, elder brothers, school-teachers, etc. Not only does the attitude of dependence get transferred onto other people, but many other attitudes as well. We see this, for instance, when a child who has hostile reactions towards his father grows up into the man who is up against the boss, up against the Government, and generally resentful of all persons in authority.

Furthermore, the child's first attachment to a member of the opposite sex is most likely to be to the corresponding parent; in the case of a boy this would be his mother. This attachment is often very intense, it is a sexual one in the Freudian sense, and it tends to lead to an accompanying feeling of resentment and hostility towards the parent of the same sex, who is then regarded as the hated rival. This is the basis of what Freud has termed the *Oedipus complex*, Oedipus being the ancient king who slew his father in order to marry his mother. The term *complex* is here used to describe any grouping of ideas and tendencies round a particular object, and to this extent it would agree with our previous definition of the term, were it not for the fact that *complex* is, in *psycho-analysis*, usually reserved for a set of *tendencies that have been repressed* and are therefore unconscious. In this case, it means that the truly sexual nature of the Oedipus complex has been kept unconscious and the child is therefore not aware of the real significance of his mother-attachment.

The other aspect of child development to which we must briefly refer is this. When repression occurs, it does so unconsciously; we are not aware that we are repressing anything. Naturally so, because if repression of a desire means rendering it unconscious, then obviously the more we knew we were attempting to repress it the more would we be aware of its presence—we cannot “know what we have caused to become unknown”; we do not remember having forgotten. This means, therefore, that we must have in our minds something of which we are not aware but which guides our repressions and embodies the standards by which the necessity for repression is measured, a kind of unconscious ideal in fact, and this is the *ego-ideal* (or super-ego). This is, therefore, a kind of unconscious conscience, and is not to be confused with our conscious conscience of which we are all too aware and which has been derived from teaching and experience. The

ego-ideal, on the contrary, is really derived from unconscious sources and reflects the early influence of the parents and the prohibitions and restrictions imposed by them at a time when the conscious, reasoning side of the child's mind was too unformed to assimilate such standards consciously.

Fixation and Regression

It may well happen that the natural and easy transition from one developmental stage to the next is interfered with. For instance, if the child's natural interest and activities in any one stage are so severely condemned, or suddenly and completely forbidden, the child has no chance to sublimate and to direct his interest gradually elsewhere. The original attitude cannot be changed and all that happens is that the undesirable tendencies are repressed without subsequent sublimation, and consequently they remain unconsciously active; they still seek expression, and in the event of the powers of repression being weakened by mental illness the repressed trend may well burst forth again in the original form. When interest remains thus attached to infantile aims and pursuits—even if unconsciously so—a *fixation* is said to have occurred. The child's tendencies are "fixed," they persist in their undeveloped form and they may therefore predispose to a future breakdown owing to the stress engendered by the continued conflict between them and the repressing force; even if they do not account for the occurrence of the breakdown, they at least provide an explanation for the form the symptoms may take. This they might also do by means of what is termed *regression*. When a difficulty arises in life, when the normal interests of an individual are suddenly blocked or cause him undue stress, then he may redirect his interest into the channels that were once satisfactory in childhood; he would go back (regress) to an infantile level which includes a resumption of childish modes of expression.

Applying this to the understanding of mental symptoms, it is easy to see how the persistence (through fixation) or resumption (through regression) of infantile modes of satisfaction may account for the abnormalities found in many mental disorders. For instance, persistence of the auto-erotic stage and the narcissistic stage of object love lays the foundation for the outbursts of self-induced sexual gratification (i.e. *masturbation*) so often found in the insane. It is recognised, of course, that masturbation frequently occurs, at some time or other, in a mild form, in over 90 per cent. of the male population; as to females (according to one survey made of 2,200 middle-class women in America) it was found to have occurred in 65 per cent. of the single women and in 38 per cent. of the married ones. In moderation.

therefore, masturbation is common at certain stages of development and possibly in after life, but what is uncommon and abnormal is for it to be practised as frequently, as openly, and as compulsively as it is by the insane. Its harmfulness (if any) is to be found, not in the act itself, but in the fact that it tends to supplant more normal sex activities and that it often gives rise to considerable worry and ideas of guilt. The persistence of the narcissistic stage similarly accounts for the self-absorption and unresponsiveness of schizophrenia ; so much interest is fixed on the self that there is none left with which to invest objects in the outside world.

The influence of the homo-sexual stage too, is often evident, but in varying degrees according to the extent to which it has or has not been successfully left behind. In normal people homo-sexual love is not rare, if one includes those instances where only the mental aspects of love are expressed. The survey of 2,200 women referred to above revealed that in 50 per cent. of the single ones, intense, emotional, passionate and exclusive attachments to other women (the mental side of love) had occurred, and that in half that number the sensual, erotic side was also present and expressed. Similar attachments had also occurred in 30 per cent. of the married women, over half of them having been erotic as well as mental. In men, the proportion of physical homo-sexuality is given as at least 5 per cent., and the reason it is likely to be lower than in females is that men are more free, they live a more varied life, with more hetero-sexual opportunities, and are less thrown back on each other.

Extreme persistence of this homo-sexual stage accounts for those individuals who are wholly homo-sexual and cannot develop any sexual interest in the opposite sex. Milder degrees lead to an intermediate condition in which sexual attraction is felt equally towards both sexes (the bisexual type), and then there is a slighter form yet where homo-sexuality is resorted to only in absence of suitable opportunities for normal hetero-sexual relationships.

So much for the persistence of childhood forms of object-relationships. As to the stages of body sensuality, these too may persist or be regressed to, with corresponding abnormalities. Some of the features of the unorganised stage when the whole body is endowed with a primitive form of sensuality always persist, and it is well known that certain areas of skin are more liable than others to be endowed with sensual feeling. The oral stages similarly leave their mark even in normal people and it is to this that the sexual importance of the kiss can be ascribed ; if the destructive phase persists, it may lead to the significance of biting as a minor form of sex-expression, or to actual sadism. A milder expression of mouth sensuality is evidenced

by those people who are always sucking or tearing at things with their teeth; even smoking has been suggested as a satisfaction of mouth sensuality. The propensity of insane patients for swallowing objects may, in part, be accounted for by the early oral stage, though other factors come into it too, such as ideas of suicide or actual delusions concerning the effect of the thing swallowed. The later, expelling stage could similarly provide an explanation of the constant spitting in which some patients indulge. The significance of these stages in after-life cannot be doubted. Hence the inadvisability of giving infants "comforters" that have, in addition to their bodily ill-effects from the constant effort of sucking, the disadvantage of tending to prolong the importance of the mouth as the main organ of sensual feeling.

The anal stages, too, can often account for mental symptoms. Thus the "retaining" stage may, in melancholics (melancholia is said to be associated with a fixation at the oral or anal stages), account for the delusions of stoppage of the bowels they so often express; if transformed into an actual bodily symptom, this retaining tendency results in actual constipation. On the other hand, the "expelling," destructive phase may be the explanation of the incidence of patients plastering their room with fæces or having the idea that all their food passes through them and that none is retained. Even in normal people these retaining and expelling phases may make their effect felt by leading to such *mental* equivalents as hoarding, collecting, and the miserly accumulation of money on the one hand, and to destructiveness, extravagance, or squandering of money on the other. Again, the cruelty tendencies originating in these developmental stages may find their expression as *mental* sadism or masochism, e.g. the inflicting of *mental* pain instead of *bodily* pain.

Another very frequent and all too unfortunate instance of persistence of an infantile attitude is the continued influence into adult life of the Oedipus complex. It often accounts for the man who has been so exclusively fond of his mother that he is quite unable to form any love relationships elsewhere. He may satisfy his need for sensuality by consorting with prostitutes (the physical side of love), but he keeps all his affection for his mother or her memory (the mental side of love). If he does detach himself enough to marry, then his wife will probably fall short of his expectations by not coming up to the standards set by the mother; she will be too unlike the mother. To say nothing of the fact that as the son, however in love with his mother he may have been, has had to repress any sensual tendencies in that direction, then consequently affection and sensuality become so divorced from each other in his mind that he cannot, once married, reconcile physical sex with love and respectability.

It often happens, of course, that as an attempt to relinquish mother-love the sex urge is transferred to another relative, probably a sister; but this, of course, provides no real solution and indeed may account for the not so rare occurrence of incest. Similar situations naturally occur for the daughter who has become "fixated" on her father, and the complex is then termed the *Electra complex*.

Other Mechanisms

There is one kind of attachment which we should mention because it is not a love or sexual attachment at all, though it may be a substitute for one. A love relationship is with a person whom one desires, with "what one wants to have"; but one often gets attached to people by dint of admiration, because one wants to imitate them and take them as a model. In extreme cases one regulates one's life in accordance with those persons' attitudes, one sees everything "through their eyes," in short one identifies oneself with them. In *identification*, therefore, the object is treasured, but the attitude it inspires is not based on what one would have (as in love) but on what one would be.

There are other mechanisms, too, that have been described, but they are a little too complex for inclusion here. Let us, however, gather the threads together, so to speak, and from the ground that we have so far covered attempt a few general formulations.

If we look upon the ego as the adapting part of our personality—our conscious, practical self—we must see how it has to satisfy three masters. It has first to satisfy the demands for expression of our primitive, sensual tendencies (the libido). Secondly, it often has to modify those expressions in order to satisfy the demands of reality, of the environment and the restrictions imposed by it. Thirdly, the ego has, in restraining and expressing the libido, to satisfy the unconscious standards that constitute what we have termed the ego-ideal.

When insoluble conflicts occur in the mind, the ego may behave in several different ways. If, for instance, the curbing influence of reality and the urgency of the libido cannot readily be harmonised one with the other, then the ego may either side with reality and repress the libido completely, taking the risk of its bursting forth again in the form of symptoms, or else it may side with the libido against reality; this entails a repudiation of the real world in which we live that may lead to complete neglect of its demands or to a modification of its appearance by means of delusions and hallucinations. If, on the other hand, the ego comes into too severe conflict with that internal, unconscious "conscience" that is the ego-ideal, again it has two choices: it may cringe so completely to the severity of the ego-ideal

that it will feel weak, helpless, and sinful, so that depression and delusions of guilt appear; or it may choose to ignore the ego-ideal completely and in doing so will feel free, omnipotent, unfettered and elated, and a state of mania may result.

In many of these conflicts the danger point is reached when there is such a bottling up of repressed tendencies for which adequate sublimation cannot be found that a state of extreme tension results. A danger signal is then put out in the form of *anxiety*, an acute yet ill-defined kind of apprehension. This anxiety may be dealt with by the ego in various ways. The anxiety may persist as a "free-floating" anxiety, apparently unattached and (consciously at least) inexplicable, as in anxiety neurosis. Or else the anxiety may be attached to various symbols in the environment, as in anxiety hysteria. Again, the energy behind the anxiety may be converted into the motor symptoms of conversion hysteria. The anxiety may, on the other hand (in so far as it is often associated with unconscious ideas of guilt), be abated by placatory rituals to avoid evil or escape punishment, as in obsessional neurosis. The symbolism of some of these compulsive acts are sometimes fairly obvious: for instance, hand-washing, which the patient may explain as a desire for bodily cleanliness, not realising that what he is really expressing is a desire for moral cleanliness—a desire that was expressed also in hand-washing by Pontius Pilate when he gave Jesus over to be crucified. Lastly, there is the solution of projection; anxiety is the sign of an inner danger (increased tension), but the organism cannot react to it in the manner that is applicable to an outer danger, that is by flight or fight. So the inner situation is projected onto the outside world, delusions occur to make it appear as though it was there the danger really lay, ordinary fear takes the place of anxiety, and fight or flight can once more be resorted to.

Mental symptoms and illness can thus be looked upon as a kind of compromise behaviour that satisfies all three aspects of the personality; the symptoms provide some expression for the libido, they satisfy the severity of the ego-ideal by inflicting punishment, and they gratify the ego in so far as the illness affords an easy excuse for shelving temporarily all personal responsibility.

So much, then, for psycho-analysis, one of the corner-stones of which is the theory of conflict and repression. Because this theory is largely accepted by many who do not follow Freud in all his views, it was described under the general heading of symptom formation, reserving for the present chapter on psycho-analysis the less universally accepted theories concerning sexual development, fixation and regression. We must now glance briefly at some of the other schools of thought that have diverged from true psycho-analysis.

OTHER VIEWPOINTS

Individual Psychology (Adler)

ADLER was a follower of Freud at first but they soon parted company; he repudiated many of the psycho-analytical views and called his system of psychology "Individual Psychology." This was, perhaps, an unfortunate term, as it offers no indication that he disagreed—as he did—with many other psychologists who also professed to describe a psychology of the individual. Adler denies repression, he rejects the theories of sexual development, and he pays little attention to the unconscious. The physical basis of mental symptoms he believed at first to be found in constitutional inferiorities of certain organs, the symptoms arising as a psychical compensation. Unfortunately he did not follow up fully this promising approach and concentrated rather upon developing his psychological views along lines which seem to have won a great deal of popular approval in spite of the looseness of his theories and their inadequate foundation. All Adler's psychopathology is based upon what he termed the *masculine protest*. This masculine protest is really the will-to-live and the will-to-power of the older philosophers. It is the egoism that causes Man to strive constantly for efficiency and power, for the control of his environment and for the achievement of supremacy over his fellow creatures. There is, therefore, little room in this view for the sex tendencies stressed by Freud, except in so far as sex is merely *one* way of expressing Man's essential egoism, one form of expression of the will-to-power.

"This masculine protest or will-to-power is often a form of compensation for a real inferiority, but any compensatory strivings, to be normal, should be socially useful; otherwise, reality makes the feeling of inferiority worse. Many successful men of the world are just those who were inferior in their childhood but have successfully compensated. Others get a mental trouble instead, in order to achieve a miserable victory over the society whose demands are too much for them. This often entails a withdrawal from society at large into the narrower family circle over which it is easier to dominate through illness and symptom formation; the neurosis or insanity provides a means of

achieving a vicarious sense of power over one's intimates. Culture, which is regarded by psycho-analysis as a sublimated product of sex, is looked upon by Adler as the normal method of attaining power, making communal life worth living.

"The correctness or otherwise of an individual's adaptation is to be inferred from a consideration of what his attitude is towards society, towards work and towards love. As regards the first, he may in abnormal cases err on the side of timidity, or else he may over-compensate and become over-defiant. As regards work, he may either play for safety and take up unoriginal routine labour (as a result of inferiority), or he may retain his originality but work for himself in such a backwater as will debar him from encountering the competitive factor inherent in social mixing. His attitude towards love usually depends on the previous two; it is only a special case of sociability. In fact, Adler would consider sex as another, more intense form of friendship; and not friendship as a modification of sex. Consequently, he repudiates entirely the notion of sex-love leading—via homosexuality—to communal feeling. Again, in contrast to Freud, he explains mental symptoms, as we have seen, as entirely the product of the ego and not as a compromise between ego and sex.

"The reason why the 'protest' of the neurotic is described as a masculine one would appear to be that the 'he-man' has ever been taken as the standard of complete human potency and the feminine aspect of individuality has always been relegated to an inferior position. It has been held by some writers that in woman and female mentality we see a stage of inferior, unevolved human mind; woman would thus be all instinct and trickery, with no real consciousness of purpose; man would be all will, intelligence and conscious self-realisation. And in so far as all humanity has always acclaimed man as above, woman as below, then all human strivings—even in the female—have been towards more complete masculinity. It is interesting to note that Freud, too, recognised something of the sort when he suggested that feminine psychology is fundamentally affected by a sense of inferiority; this, however, he naturally related to the importance which he ascribed to sex, and he believed that this inferiority was a consequence of the growing female regarding herself as inadequate and incomplete because she lacks the obvious sex organs of the male. Needless to say, such a reaction in the female would usually be unconscious, and only in rare instances consciously appreciated.

"When this feeling of deficient masculinity occurs in a man, it leads to a dread of not being above woman. His attitude towards women, therefore, is that he will have none of them, and he may become homo-sexual in consequence. On the other hand, his attitude

may be that he will have all of them and attempt to be a Don Juan. Either way allows him to preserve his superiority; it is the having of one woman only that would tend to put him on a level with her. Similarly in woman, a masculine protest leads to frigidity; or else it urges to prostitution, where what might have been the sexual token of inferiority becomes converted into a means of obtaining money, power and independence.

"Individual psychology, then, is based on the egoistic side of our natures, on the striving for power as a compensation for inferiority. It emphasises all that is domineering, cruel, hard and hating. All that is soft, tender and loving, all that is peculiarly feminine, is depreciated and neglected. Neurosis arises as an attempt at freeing oneself from the feeling of inferiority, finding an outlet in a small family circle, larger social units being pushed aside and ignored. The estrangement from communal life leads to phantasies that are for the purpose of evading reality, followed by a kind of anti-social revolt. The cure will therefore lie in such re-education of the patient as will result in a relinquishing of this striving for socially useless power and the regaining of social interest, moulding his reactions into that form of egoism which, being in keeping with herd standards and needs, is also altruism."^{*}

Analytical Psychology (Jung)

Jung, like Adler, started within the fold of psycho-analysis, but after leaving it he included his theories under the term "Analytical Psychology." Not too happy a term, because any psychological method of analysing the mind can legitimately be termed analytical psychology without, for all that, implying any adherence to the Jungian views.

Jung retained more of psycho-analysis than did Adler; indeed, he tried to reconcile the Adlerian and Freudian points of view by according them both a measure of truth. He recognises a primary instinctual force which he, too, calls libido, but for him the libido is a neutral kind of force that in some people is expressed principally in a sexual form and in others mostly as an egoistic will-to-power.

To account for this, he advanced the view that there are two main types of attitudes—*extraversion* and *introversion*. The extraverted people are those who are in good sensual and emotional contact with their environment, and it is to these that the Freudian formulations would apply. The introverted ones are partly divorced from reality, they find their inspiration not in the outside world but within their

* From *Psychopathology* (fourth edition).

own unconscious and (unlike the extraverts) they resent the intrusions of the outside world upon their psychological privacy and erect a system of defences to which Adler's conception of a will-to-power might well apply. The extravert's gaze is directed without, while that of the introvert is directed within; the former reacts to his environment sensually, the latter does so aggressively.

The unconscious, to Jung, means far more than it does to Freud. We have seen how, according to psycho-analysis, the unconscious consists of those tendencies and desires that are ruled out from consciousness as a result of repression. They arise, however, in the course of personal development; they may vary from person to person, and they are the product of personal experience. Jung accepts all this as quite true but, in addition, he recognises another unconscious, a part of the mind of which we are not aware and which has nothing to do with what we have ourselves repressed. Therefore, he distinguishes this unconscious as "*impersonal*," in contrast to Freud's unconscious which is wholly personal. Jung also terms this impersonal unconscious the "*collective unconscious*" because he believes that it is inherited, that it is universally present in everybody, and that it contains certain ancestral tendencies and spiritual urges common to all mankind. Now it is this collective unconscious that guides the introvert's reactions; he seeks inspiration in primitive images that have no relation to his personal history, education or experience; he is influenced by collective material that is the background of all human nature.

Because the collective unconscious is so vague and primitive, also because it always remains unconscious in us and hence is inaccessible to direct observation—it can only be inferred in a roundabout way—it cannot easily be described, but it might perhaps be likened to a repository of racial aspirations. It is a legacy from ages past and it contains the roots, in a primitive form, of certain abstract aims that are common to all men at all times. The urge to seek truth, the tendency for accepting the supernatural, the low and the lofty, the demoniacal and the divine, are all represented in an embryonic form in the collective unconscious, and though this unconscious does not itself consist of formed ideas or of clear motives, it can affect our conscious selves so as to lead to the formulation and pursuit of aims that were originally dormant within us and represent the essential spiritual nature of Man.

In describing Jung's types in the section on type psychology, no account was taken of these two *attitudes* (introversion and extraversion), only of *functions*, and the description given of the four main types was only meant to apply to extraverted people. This was because the

extraverted types are so much more frequent than the introverted ones that a description of the former was thought sufficient as an introduction to type psychology. It might now be added here, however, that the four main types (thinking, feeling, intuitive, and sensational) are quite recognisable in introverts too, but with these differences: The introverted thinking type does not reason from or because of his environment, his thought is mostly guided from sources in his own unconscious, so that he erects systems of belief that have little to do with reality—as many philosophers have done. In the introverted feeling type, emotion arises from a deep inner source, not from the environment, and it is therefore not outwardly expressed; nor is there any attachment to anything in the environment. This emotion usually takes the form of poetry or perhaps of a secret religiosity. The introverted intuitive similarly fails to apply himself to real problems, and the intuition (being derived from primitive unconscious sources) leads to the kind of inspiration that accounts for mystics, seers and prophets. Finally, the introverted sensational type appreciates his sensations inwardly—he has no regard for the objects procuring the sensations—and his appreciation is expressed in that essentially personal, private and often mystical form that is art.

Throughout the psychology of introverts we see how the fact that they are motivated by unconscious and primitive factors leads to their modes of expression being tinged with symbolism and mysticism—those two ingredients of all that is primitive and belongs to the infancy of the race. Many such characteristics of schizophrenia as the absorption, the distrust of the world, the flights of imagination and of phantasy, the primitive types of reactions could be explained in terms of extreme introversion, the manic-depressive cases being similarly explained as examples of an extraverted attitude. In fact, introversion and extraversion correspond largely to the characters of the schizoid and cycloid groups of Kretschmer.

Jung also differs from Freud in that he ascribes little importance to fixations; he considers that a mind breaks down when a present-day difficulty so upsets the distribution and expression of libido that the libido then regresses to earlier forms of expression but that these infantile interests would not affect the situation at all were it not for the present blocking of normal interests. Hence he sees as a main cause of mental trouble any interference with the continued evolution of the mind. This further mental development is stressed by him because a mind is not understood merely in terms of what it was; it should be viewed also in terms of what it will become; and it is in this process of becoming that the collective unconscious plays such a

large part. The fact is that Jung adopts a "purposive" point of view. To him the events of to-day are not only the result of those of yesterday ; they are also determined by those of to-morrow. In so far as the Universe would appear to be planned, to the extent that Man's presence here seems to have some purpose—albeit one that we can ourselves understand but imperfectly—then the end in view, the achievement aimed at, must affect all that goes before it. Progress is thus not just accidental, or even the result of past human effort ; it is the unfolding of a vaster plan and of one that lies beyond the ken of mere mortals. A reflection of this plan is perhaps vaguely to be seen in the racial aspirations—inherently there, not acquired personally—which Jung ascribes to the collective unconscious. According to this view, then, the design of the Universe and its ultimate goal have an effect upon the present as important as that due to past history. What, and whose, is this design and purpose that moulds human endeavour is a different matter ; some see this plan, this "meaning of life," as inherent in the conception of a Divine Will ; some recognise it under the term "purposive evolution" ; others, again, deny it altogether. In any case, this is a problem that belongs to philosophy and not to psychology.

Mention might finally be made of Jung's use of the *Association test*. We know how one association leads to another, and how any word or idea brings up another connected with it by some emotional link, but that if the association tends to bring up painful thoughts or memories an effort is made to direct the stream of association into other channels. So Jung devised a test whereby the patient is given one hundred words, one by one, and he has to respond to each by giving the first word that comes to his mind ; not only is a note made of each response but the time taken in responding is also recorded. Whenever the patient is given a word which might cause him to respond by another expressing something painful or something he has been repressing, he tends to repress this response too and to look round for another, more neutral one. This rejection of one response in order to find and give another takes time, and will show itself in a delay in reaction. By tabulating all the words which have led to delayed responses a general idea can be obtained of the topics that are of emotional significance to the patient. Thus, if he reacted unduly slowly to such words as "Mother—love—jealousy—brother," we might well be able to infer what kind of a family conflict it was in which he had been involved.

Mixed Schools

There are many writers who accept most of Freud's teachings but not all ; others may combine Freud and Jung ; others again bring in

viewpoints of their own ; in fact there are nearly as many " schools " as there are writers ! For instance, several authors have stressed the importance of mother-love, but in much more than a sexual sense ; they hold that all cultural, non-sensual needs arise from the deprivation of maternal influence. On the other hand, all cultural needs, according to Freud, are sexual in the first place but have later become desensualised. In other words, whereas some hold the view that love is a combination of *two* sentiments—affection and sensuality—both of which are primarily distinct from each other, others agree with Freud in regarding love as primarily *one* sentiment which includes sensual needs but which can be secondarily desensualised. Those, therefore, who take the former view are prepared to explain mental symptoms in terms of the repression of non-sexual interest as well as that of sexual interest—using the term sexual in the narrower, everyday sense. It may be that many of the minor differences between one school and another are a matter of words used, of terminology, and not so much one of really divergent ideas.

Some, like Freud, emphasise the sex complex, others the ego-complex, while many recognise in addition a herd-complex ; these last would explain mental trouble in terms of conflicts between ego and sex, ego and herd, and sex and herd.

At least it cannot be said that modern psychology has not produced any theories offering at least tentative explanations of mental disorder, and numerous schools of thought have put forth most suggestive views and attractive interpretations of psychological symptoms. It may be a little difficult at times to pick one's way amongst all these theories, but even without going as far as definitely deciding which views are right and which wrong, much valuable understanding can be achieved from continually bearing in mind any theory that might fit the particular mental case under consideration. Any insight into patients' symptoms must be welcome, and however much these theories may have certain academic weaknesses, any explanation is better than none.

One way of approaching the problem of multiple schools would be to view any particular mental disorder first superficially in the light of general conflicts resulting in reactions of inferiority, of aggression and of guilt—this outlook being one with which most psychopathologists would agree—leaving the deeper, more detailed explanation of the basis of these reactions to be later formulated according to whatever school seems to fit the individual case best.

Of course, the nurse is not too concerned with the arguments of psychologists among themselves nor has she to carry out any active psycho-therapy herself, but if she acquires a general appreciation of

psychopathological principles that assists her to understand a patient, to realise just enough of his reactions of guilt or of inferiority not to add to them by ill-considered chatter or hastily-passed opinions, and especially if she achieves a clear and sympathetic appreciation of how an apparently culpable tendency in a patient is, after all, natural and is only an extreme form of what may (for all we know) be lurking in most of us, then will she have gone far towards that kindly and tolerant understanding that may do the patient much good and will, at least, guard against doing further harm.

THE MENTAL FACTOR IN BODILY DISEASE

Mental—Physical Relationships

WE have noted before the close relationship between events in the mind and what happens in the bodily sphere ; and if we view the human organism as one complete unit exhibiting mental and physical aspects, we even begin to wonder whether we are quite justified in speaking of two kinds of diseases, those of the mind and those of the body. We might, of course, care to call a disease mental or physical according to its cause, but as so many diseases have not one but many causes, we should have to single out the principal cause—if and when this were possible, which would be far from always. On the other hand, we might classify a disease in accordance with the nature of the symptom, but here again, the symptoms are likely to be numerous—and include both mental and physical manifestations—so that it would be very difficult to single out any one symptom as a guide.

As a matter of fact, it is evident that both methods have been followed, and most inconsistently so at that. Thus we have, amongst the recognised physical diseases, the infections of pneumonia and of typhoid fever, even though the former may lead to such dramatic mental symptoms as acute delirium and hallucinations, and the latter to a state of acute confusion. Yet, when the infection of syphilis and the one occurring after child birth—both physical causes like the infections mentioned above—lead to an elated delusional state and to acute confusion respectively, the patient is then labelled as a mental case and diagnosed as suffering from general paralysis of the insane or puerperal insanity, as the case may be. Again, we have mental causes leading to such as hysterical paralysis and anæsthesia, when the disease is accepted as non-physical; but when a gastric illness, a skin complaint or a vascular disorder is the result of a mental cause, the disease is most likely to be grouped with other bodily ailments.

No wonder, then, that the limits of psychological medicine are so ill-defined, and rather than attempt to separate the *diseases* with which it should deal it might be more logical to look upon it not as a special kind of medicine so much as the "other side of all medicine," the side that is concerned with mental *mechanisms* and *symptoms*, wherever

they are to be found, on the basis that neither the psychological nor the physical aspects of the human being can properly be understood and dealt with as long as they are kept divorced from each other. Guided as we have been by custom and descriptive facilities, however, we still classify illness into two main groups, and we might therefore give a glance at how certain "bodily" diseases can be affected by mental mechanisms and events.

First of all, there are four possible relationships between causal factors and resultant symptoms, these being :

- (1) Bodily factors may cause bodily symptoms.
- (2) Bodily factors may cause mental symptoms.
- (3) Mental factors may cause mental symptoms.
- (4) Mental factors may cause bodily symptoms.

We are not here concerned with (1) because this belongs wholly to the realm of "physical" medicine ; we have mentioned (2) in connection with the causation of mental disorders, and (3) has already been dealt with at some length. It is (4) to which we should now turn our attention briefly, if only on account of its being the basis of what has in recent years come to be called psychosomatic medicine.

Psychosomatic Medicine

This term does not cover *all* instances of bodily symptoms caused by mental factors ; if it did, then most of what we describe as mental diseases would come under this heading of psychosomatic medicine, owing to the prevalence of secondary physical symptoms in so many mental conditions. The disorders that are properly called psychosomatic are either those with symptoms closely resembling those of ordinary bodily diseases (though of mental origin), or they are truly physical in that they are characterised by actual pathological changes in the bodily organs themselves—alterations in *structure* and not merely in *function*.

Into this latter group of diseases the mental factor comes in two ways. In the first place, it may, while not causing the disease, determine the recurrences of the symptoms of the disease (if they are intermittent), or account for the acute attacks in a disease that otherwise runs a chronic course. Secondly, it may actually *cause* the disease in the following manner : the mental stress, the disordered emotion or the repressed tendency that is troubling the patient's mind first results in certain abnormal functionings (or *dysfunctions*) of the bodily organs, and during this stage the removal of the mental cause would presumably lead to a disappearance of the symptoms. If, however, this abnormal

functioning continues for some time, it may in its turn lead to actual structural, anatomical changes in the organs and, these being of a more permanent nature, the basis is thus laid for a true physical disease that may then persist independently of mental influences.

The literature on psychosomatic medicine is becoming too vast for it to be conveniently summarised, but one or two examples may help to demonstrate the kind of evidence that is leading to a greater recognition than heretofore being granted to the mental factor in ordinary diseases.

A recent textbook (Weiss & English) quotes the case of a woman suffering from arthritis, with recurrent attacks often necessitating treatment in hospital. She was not very happy in her childhood, she married at 16, lived with her mother at first, then in her own home; she had her first child at 17, the second at 18 (when her husband was out of work), and the third child was born when she was 19. There was, at the time, little work for the husband, and she got up one and a half days after her confinement. She moved into a better house at 20, and her husband began to work occasionally. At 21 she lost the second child and gave birth to her fourth, she herself being in very indifferent health. At 23 and 24, she got her fifth and sixth child; at 26 her fourth child died. When she was 27 her husband became ill with tuberculosis, and he was in a sanatorium the following year, while she had her seventh child, she herself getting up three days after confinement. When she was 29, her husband got better and went to live far away; her mother gave her some assistance and for several years life was much easier for her. At 37 she suffered from her mother's aid being withdrawn; she worried much over ways and means of keeping her children, her son was out of work, she was on public relief, and very distressed for the next two years, when the history ends.

The arthritis started after the third pregnancy, at age of 19, passed off quickly and did not trouble her again until nearly 22. Then she had a few marked attacks, and had to be admitted to hospital. She got better, had no more trouble till after the birth of the fifth child, improved, got more arthritis attacks when the sixth child arrived, after which the attacks continued throughout the period when she was worried over the sixth child and lost the fourth. She had to be hospitalised again as soon as the husband's tuberculosis began, and her severe attacks of arthritis continued until the time when her husband was better and went off to live elsewhere. She was but little troubled by the arthritis (though it was not completely absent) for many years (age 29-36), but as soon as her worries resumed at 37 she

had severe attacks again, and from that age till 40 the arthritis remained extremely frequent and severe. The whole history demonstrates how at times of stress and anxiety the arthritis became worse, and how it subsided almost completely during the years when life for the patient became reasonably easy. That this is no mere accident in the history of a single patient is borne out by the fact that a distinct relationship was found (by the same authors) between illness and environmental stress in over 60 per cent. of patients suffering from arthritis, in contrast to under 10 per cent. in the cases of varicose veins, which were used as a control group for comparison.

Gastric cases, too, are often psychologically conditioned; for instance, a young man developed indigestion following his father's death from an accident for which he thought he was responsible. He had a heavy sense of guilt, and many influences from faulty childhood adjustments led to anxiety and over-conscientiousness; but his gastric trouble was cured by psycho-therapy. A woman, diagnosed at first as a case of chronic appendicitis with occasional fever, was later investigated psychologically and found to be a passive, submissive personality, willingly playing the role of a martyr and expressing her discontent in bodily symptoms; she had great problems to face in relation to possible marriage and her home life was unsatisfactory. Psychological treatment and discussion of her problem led to a marked improvement, absence of pain or fever and reasonable efficiency and contentment. A young man had suffered from a duodenal ulcer with hæmorrhage; he had been through an acute emotional conflict over a marriage problem immediately before the onset of his trouble, the importance of such problems being supported by the high incidence of marital difficulties in patients suffering from gastric and duodenal disturbances. After combined psychological and physical advice, his symptoms cleared up.

The influence of repressed aggressive reactions or of anxiety in certain cases of high blood pressure and of tachycardia (an increase in pressure and in heart activity is part of the response resulting from the instincts of pugnacity and flight being aroused) might be mentioned, while it has been held by some that reactions of love and hate are associated with such skin diseases as psoriasis and eczema; thus psoriasis is dry and affects the extensor aspects of the limbs, the musculature of these aspects being that associated with reactions of refusal and aggression; eczema on the other hand is wet and affects the flexor surfaces, those associated with possession and love (the erotic significance of flexor surfaces compared with extensor ones is easily observed). Endocrine troubles, too, are often closely related to

mental states ; thus, of 5,000 cases of exophthalmic goitre, 90 per cent. had a history of psychic shock.

Rather than multiply examples further, it will be sufficient to add colitis, menstrual disturbances, asthma, certain cardiac complaints, and migraine to the list of diseases in which mental factors may play a major role, to show the vast field that has been opened up by the growth of psychosomatic medicine.

Another approach, collective rather than individual, to this problem consists in ascertaining the environmental background and personality traits of large numbers of cases of each disease, and if an unusually high incidence of certain characteristic events and reactions is found in the sufferers from one disease and not in others, this is fair presumptive evidence that these events, and the mental stresses likely to be associated with them, may well have a bearing upon the illness in question—provided, of course, that these particular reactions and stresses were present before the onset of the disease and not such as could be looked upon as the result of it.

A survey on these lines by Dunbar revealed some interesting facts in connection with the following diseases: A—repeated fractures, B—coronary disease, C—high blood pressure of vascular origin, D—angina, E—rheumatic disease, F—cardiac irregularity, and G—diabetes. The findings are difficult to express concisely; but an attempt might be made to summarise them as follows, bearing in mind that when a trait is said to occur in a group it is only intended to convey that it has been found in a majority of instances, not in all, and to an extent that is greater than the average to be expected in normal controls.

Nervousness in the family was only found in 24 per cent. of D, 35 per cent. of E and G, but 56 per cent. of F and 75 per cent. of C. The patient's parents were definitely strict in C and D, but extremely strict in B ; home conditions were particularly good in B, poor in E and F, and particularly bad in G ; the number of children of the married patients were few in all groups except in B and C where they were definitely above average ; divorces were few throughout the groups. The patient's previous health was good in groups A and G, poor in the others, and particularly bad in B. Educational standards were above average in D, F, and G, and much above average in B, being low in C. The work record and general efficiency was high in B, variable in E and F, and in G was characterised by inability to assume responsibility or initiative. The income level was low in C and G, and very high in B and F, these last two groups containing a large proportion of administrative executives and officials. As to sociability

and adaptation, we find aggressive self-reliance in A, a tendency to be respected but argumentative in B, while individuals in group C were shy, conventional, and apt to gain comfort in "wine, women and song"; those in group D were successful socially, those in E shy and not liked by others; those in F were flighty, liked, but with fits of shyness; while those in G were self-conscious and somewhat inaccessible. The sex-life was conventional and secretly promiscuous in group B, not very satisfactory in C; there was fear of sex in general in E and in G, with a very confused outlook on the matter in F. Venereal disease was more prevalent in B and C than in the other groups, and was comparatively rare in A and G. Neurotic traits were few in B and C, somewhat high in F and G, and very high in A and E. Recourse to alcohol, coffee, cigarettes, etc., was marked in all groups except G, but was specially high in C and E. The patients' religious outlook was orthodox in A and G, one of scepticism in B and D, either over-zealous or one of disillusionment in E, but specially keen and sincere in F.

The period immediately preceding the onset of disease showed some form of a threat to personal security in A, mostly a shock in group B, loss of loved ones or setback to ambition in C and in D, frightening experiences or separation from loved ones in E, a gradual sense of failure in F, and a long period of wear and tear and of family struggles in G. The reaction to the illness was one of bravado or fatalism in A, self-neglect and minimising of the illness in B, a passive attitude and a seeking of care and sympathy in C, an attitude of casualness in D, a welcoming of the "advantage from illness" in E, fear and discouragement in F, and depression possibly followed by relief at having an excuse for inadequacy in G. The general character picture in each group was as follows: patients in group A were markedly affected by events rather than by abstract theories, and had a sense of immediate values rather than ultimate ones; those in group B were markedly consistent, they welcomed being in authority and were affected by ideas and aims rather than by facts; those in C were uncertain in their aims, and even when they had definite ideas they were inclined to submit to others in order to keep the peace; those in D were much like those of group B but they were more emotional and ambitious; in E were found those who posed as good sports but were, in fact, not too happy when in groups owing to their being hypersensitive; those in group F were inconsistent, afraid of being thought hostile, very imaginative, but inclined to be morose when alone; those of group G were markedly inconsistent and always inclined to seek sympathy.

Although each of these various groups included patients of every kind, it does appear from the above that, on the whole, certain traits were significantly predominant in some groups and not in others, thus serving to indicate the presence of such events and personal reactions in each group as provide the abnormal mental background that might well have been responsible for the illness in question. Further detailed discussion would be out of place here, but it will be appreciated how vast is the field for further investigation, and how evidence is accumulating that must convince us of the necessity for accepting the human organism as a single psycho-physical entity that cannot be split up into mind and body separately, and therefore cannot be adequately understood unless it be regarded as one and indivisible.

APPLIED PSYCHOLOGY

Scope of Psychopathology

ALTHOUGH our primary concern here has so far been with mental disease and with its symptoms, we are, of course, acutely interested in its causes. As prevention is better than cure, we should not limit our interest to the problem of rehabilitating minds that have become infirm ; our vision should be broad enough to include the much vaster question of how to avoid these mental casualties which almost seem to be the inevitable price that we pay for our civilisation. In so far as civilisation means restraint, it must also imply a risk of mental warping as the result of the strain imposed upon the mind by the masses of prohibitions, laws and customs constantly constraining it. It is not surprising, then, that psychopathology should be contributing more and more to the solution of the ever-present question of how to avoid laying the foundations for future mental breakdowns through an inadequate understanding of their causes. Hence the application of psychopathology to problems of infant training, education, and child guidance.

Again, we might do well to bear in mind the influence our psychological knowledge may have upon such vital matters as delinquency, crime and punishment, and the assistance it can give in the choice of careers, as well as to its application even in problems of industry. Our very understanding of society at large, and our outlook upon major social problems cannot remain unaffected by the light modern psychology throws upon human nature. Finally, our sense of values, moral and artistic, our culture, should be examined from the psychological point of view if we wish to enlist every form of human knowledge in our attempts to master our destiny and deliberately steer the course of mankind towards goals worthy of our capabilities. We have the knowledge to ensure the successful planning of man's future, but we still carry within us what may prove the sure seeds of defeat, unless we can apply our understanding of psychological principles to nullify the effects of those unconscious forces that are ever threatening to reduce man to the primitive level from which he started.

This does not mean that we can or should, every one of us, apply

ourselves to those vast problems, but even so, we should never lose sight of the fact that these problems are there and that the smallest knowledge of psychopathology may help to orientate the public mind towards a sane outlook on society's ills and weaknesses. If only we can help to dispel some of the narrow-mindedness and prejudice, the fear, the hypocrisy, and the wilful blindness with which things of the mind are usually approached—whether in the individual person or in society at large—we shall have contributed our mite to the gradual liberation of mankind from the trammels of ignorance and blind instinct.

Let us, then, remind ourselves briefly of some of the directions in which psychopathology is making its influence increasingly felt.

Individual Applications

INFANT TRAINING. Little need be said about this, as the section on child development has indirectly covered much of the ground. We know that too severe prohibitions are as harmful as too prolonged indulgence of infantile interests, especially when the former immediately follow the latter. Thus, the child whose interest in bowel activity is first emphasised by the parents' preoccupation concerning the child's visits to the lavatory and then suddenly blocked by prohibitions against talking about such dirty things, may not be able to transfer easily his interest from this kind of "dirt" to other kinds of "dirt," such as mud pies and other less reprehensible objects, and consequently a fixation may result.

CHILD DELINQUENCY AND CHILD GUIDANCE. We have noted before how many behaviour disorders in the child may be due to reactions of aggression, of inferiority and of guilt that wise upbringing should try to guard against as far as possible. Pilfering and other forms of delinquency may be hostile acts directed against the parents, and much of the treatment implicit in child guidance has to be aimed at the parents rather than at the child itself. As has so rightly been said, "there are no naughty children; only unhappy children." Lying may well be symptomatic of internal mental stress, and even bed-wetting can be explained psychologically, as it may be a love gift, a reparative act, a hostile act, an attempt to excrete what is harmful, or the result of physical fear. In any case, the understanding of child delinquency demands a proper appreciation of how there are to be found, existing side by side in the mind, such pairs of opposite tendencies as attraction and repulsion, kindness and cruelty, love and hate.

CRIME AND PUNISHMENT.—Delinquency in childhood may lead to actual crime later and it is not difficult to guess at the psychological

links between them. In addition, certain forms of crime may be predisposed to by the persistence of childhood interests, examples of which would be the hostile and the sexual reactions leading to fratricide, incest and homo-sexuality. Another factor that might lead to the senseless, pointless and ill-concealed offences that seem so inexplicable at first sight is the sense of guilt. The way a child often relieves its sense of guilt is by accepting punishment and thereby reinstating itself in the parents' esteem. An adult with a heavy, unconscious sense of guilt may do the same in order to appease it, but as he does not know what he feels guilty of he has to commit some crime in order to obtain the punishment he unconsciously feels he deserves.

It is considerations such as these that make us think twice before accepting the universal applicability of punishment, and raise the question as to whether treatment may not, in many cases, do more than the infliction of penalties. In this connection we must remember, of course, how punishment should be viewed in relation to the function it is expected to perform in any given case, for it really has three. It can act as a method of reforming the criminal; it may prove a deterrent to others; or it becomes merely an act of revenge, of retributive justice. To say nothing of the fact that it may, incidentally, satisfy the aggressive instincts and the sadism of those ordering or entrusted with the carrying out of the punishment, just as it may satisfy the masochism of the culprit.

Possibilities such as this last open up all sorts of interesting questions regarding the influence upon judicial administration of unconscious attitudes in judges, barristers, juries and witnesses—attitudes of hostility towards certain forms of behaviour due to unconscious desires in the same direction. What we are unwilling to discover in ourselves we may be only too ready to find in others.

The law itself is not exempt from criticism, if only because rather than representing the views of advanced thinkers, or even of the averagely intelligent, it generally comes into being only when it gains the support of the dull and unimaginative masses. More important still is the fact that there enters into the making of laws certain collective, unconscious biases and reactions that may contain as much of the abnormal and unhealthy as the conduct of those individuals the laws are intended to control.

EDUCATION. Little need be said about this here beyond reminding ourselves how the problems of the home-training of the child upon which we have already dwelt are also present in the school, and must be ever borne in mind there if the child is not to be torn between two sets of codes and standards. The importance of mental testing in

education is also being increasingly realised, especially in relation to the new tests designed to reveal personal biases and difficulties, and not only aptitudes.

VOCATIONAL PSYCHOLOGY. The devising of methods for estimating attitudes and abilities has proved a great step forward in the correct placing of adolescents in the professional occupations best suited to them, and this is proved by follow-ups of the careers of casually-selected as compared with those of expertly-selected workers. "For instance, it was reported that of the boys at Borstal who were advised as to their vocation by housemasters, only 46 per cent. became grade A workers, whereas the figure reached amongst those advised by psychological experts was 70 per cent. Again, amongst twelve hundred school leavers, 80 per cent. of those who accepted expert advice as to the career best suited to them subsequently expressed themselves as happy in their work, but only 40 per cent. of those not accepting such advice were able to make such a satisfactory report."*

It is well to remember how the choice of a profession is often guided, not only by natural ability, but also by certain repressed tendencies. Thus, exhibitionism may lead to acting as the profession of choice; surgery provides a legitimate and humane outlet for a cruelty instinct. Furthermore, a psychological understanding of the individual should warn against certain occupations likely to be incompatible with that individual's make-up, conscious and unconscious.

INDUSTRIAL PSYCHOLOGY. Apart from certain straightforward matters such as the influence upon workers of climate, lighting, crowding, hours of work, fatigue, etc., there are deeper problems to be solved in connection with the happiness and efficiency of the workers. Just as the child is inevitably adversely affected by its parents' stresses and conflicts, so do groups of workers respond to the stresses of the people controlling them. The detailed investigation of the problems and difficulties affecting, say, a foreman's attitude towards the work and the workers may result in a widespread improvement of all those under his control. Happy (that is, healthy) masters make happy servants. Some form of type psychology, too, might have useful applications in this direction.

Other matters of psychological interest are accident proneness in employees, salesmanship and propaganda. Advertising, too, has its mental aspects, emotional appeal and suggestive methods being best for the advertising of "personal" goods, and the reasoned appeal succeeding best in the selling of "impersonal" goods.

* From *Psychopathology* (fourth edition).

Collective Applications

GROUPS AND SOCIETIES. The psychology of crowds and groups can often be explained by some of the theories we have noted before. For instance, the behaviour of crowds, the unanimity of its members, their impulsiveness, are all accounted for if it is remembered how what keeps a crowd together is some community of interest, a common attitude towards some person or object outside the group. The group leader would be such an object, examples being an Army and an organised Church with their respective heads, the Chief-in-Command and the central religious figure (Christ, Mohammed, Confucius, etc.). The common interest leads to a process of identification of the members of the group with each other, so that they tend to act as one and, incidentally, tend to lose some of their sense of personal responsibility. The further growth of the group may lead to the members identifying themselves with the leader (e.g. in the Church as compared with the Army).

As regards primitive groups and early forms of human organisation, the interpretations and explanations given have been numerous and varied, and as one illustration we might mention how, according to some writers, the influence of sex repression can be traced through the different stages of societal evolution. Thus investigation of certain tribes of monkeys has shown that only one male (the leader) functions as such within the group; he has all the females while the other males have none. This frustration and deprivation imposed on the males leads to their behaving homo-sexually towards each other, while the privation also leads (as many other forms of instinct privation also do) to an increase of their aggressive tendencies, some of which they already possessed as part of their self-preservative equipment. This increased fighting tendency makes these males good defenders of the group, thereby adding to the chance of that group's survival. Sometimes this aggression is turned back upon the leader (because he first imposed the sexual restrictions): he is killed and another takes his place. Later in the evolutionary scale, the males can have females once more, provided they capture them from other groups and not from within their own—the earliest form of incest prohibition and of the taboo against inter-marrying within the family. In more advanced groups (the stage of primitive man), the leader is no longer an actual person; he is replaced by the totem or primitive god of the tribe, who still imposes restrictions and who has females dedicated to his service. Here, again, we find periodic destruction (pictured this time in various rites) of the imposer of restraint, followed by licence and the breaking of all laws, but a feeling of guilt results that leads the people to become

"good" once more. A similar aggressiveness is evinced later against the earthly gods (e.g. the Pharaohs of Egypt) or against the earthly representatives of the gods, the priestly rulers (as in Assyria).

A further gradual displacement of aggression occurred in Roman history, when bursts of irrational (i.e. unconsciously determined) hatred were directed, not against a god or a priest this time, but against "divine" Emperors. In more modern times this same aggression became aimed at Kings who, while no longer credited with being themselves divine, nevertheless ruled "by divine right," with the result that many lost their heads through little fault of their own. With the passing of Kings as real makers of laws and enforcers of prohibitions, the only objects suitable for becoming the target of the aggression resulting from instinct frustration were the politicians—the Prime Ministers, Dictators, etc.—and it may even be that the aggression has become shifted again on to those veiled figures, the various economic and social "-isms" that seem to call forth such vehement opposition (e.g. Communism, Socialism, Capitalism, Nazism, Fascism). According to this view, then (this is only one of many interpretations of social evolution), aggression, from being primarily egoistic in form, has passed through various stages, being in turn sexual, religious, political, and economic.

SOCIAL PROBLEMS. The aggression produced by centuries of repression accompanied by inadequate sublimation may be one of the factors accounting for *warfare* on the one hand, and *social unrest* on the other, two of the major problems that are always with us. Another problem is that of the social control of *sex behaviour*, one that is made no easier by the fact that man uses instinctive mechanisms for new purposes, purposes that are no longer those of blind instinct. Thus he can use sex in three ways; to satisfy his need for procreation (emphasis on children and the next generation), his need for recreation (emphasis on the self and its sensual pleasure), and his need for love (emphasis on a relationship with another person). And one of his difficulties is, of course, that of satisfying all three needs in one and the same relationship—marriage.

Even the *family* itself, that central core of all our social arrangements, evinces several weak points when viewed in the light of psychopathology. Many of the illustrations we have already given of fixations and regressions are good examples of the results of faulty environments, that is, of harmful family influences. The biggest difficulty here is that (unlike what obtains in other spheres of human endeavour) mothers are expected to specialise in the task of mothering quite irrespective of whether they are actually suited for it or not. No inherited instinct

will enable a mother to guess for herself all that psychopathology has, at long last, unravelled; an understanding of child development is no part of her natural equipment; and when we consider, too, how every faulty repression and every mental stress in the mother can but affect adversely her child's reactions, we cannot help comparing this state of affairs with the happier *group* life found in primitive tribes.

Another problem which society has attempted to solve for centuries is the age-long one of *prostitution*. We have already seen how an Oedipus fixation may account for some men's need for consorting with inferior women, just as we have referred already to the possibility of prostitution being an expression of a masculine protest. While sexual desire may quite often be the cause of a prostitute's choice of a profession, economic distress, mental deficiency, and many other factors come into play; in many instances indeed, only indifference towards sex relationships could allow her to behave sexually with all and sundry.

Homo-sexuality, too, is an important social question upon which we have already touched, and whether we regard homo-sexuality as the result of faulty childhood developments (Freud) or as expressing a masculine protest (Adler) or, as some do, as the consequence of constitutional factors or, again, as produced through certain ductless gland abnormalities, we cannot help feeling that a better and more sympathetic understanding of their problem might help to avoid its victims (clever and gifted as many of them are) sinking lower and lower in their search for a more tolerant environment, until they leave the stage with that final gesture of despair that is suicide.

The question of *alcoholism* and other drug addictions is another to which psychopathology cannot remain indifferent. Such addiction is often a cause of insanity, but more important still is the fact that it is itself a symptom of previous mental stress. In fact, any excess is a sign that all is not well, and whether it takes the form of unnecessary over-working or idle over-drinking, it certainly shows an attempt at drowning some hidden trouble, a fear of facing a mental conflict. It so happens that because work is useful and drinking is not, we tend to praise all over-work and blame all over-drinking, but (unless they are the result of circumstances and not of choice) both are abnormal, and neither are worthy of admiration.

Many more social problems could be mentioned, but we shall have to be content with a brief reference to two only, neurosis and suicide. The frequency of *neurosis* and of other mental derangements is distinctly alarming, and while we have been inclined, so far, to view mental illness as an unhealthy reaction of the individual to his surroundings.

it can equally well be regarded as the effect of the surroundings upon the individual ; in other words, neurosis is as much the product of a faulty environment as it is of a faulty personal reaction. Close observers of social changes have had most suggestive comments to make on this subject, as an instance of which we might mention the view that the marked decrease in the amount of neurosis in the U.S.S.R. has been due to the partial removal of sex hypocrisy and taboo, the economic independence of women, the freedom from child caring of mothers more fitted for specialising in other spheres of work, the diminution in the likelihood of children being brought up in a hothouse of conflicting emotions, the supply to everyone of the necessities of life, and the absence of such envy as might arise were the unlimited acquisition of individual wealth permitted.

The incidence of *suicide* is a cause of much social concern, if only because it occurs at least as frequently amongst the gifted and useful members of the community as it does amongst the dull and useless. The mental causes of suicide are many and complex, but it can be explained in general terms by reference to the three main kinds of faulty reactions (those of aggression, inferiority and guilt) for which it provides a ready expression. Suicide may be an aggressive act in that it inflicts trouble, disgrace, or sorrow upon others ; it relieves the sense of inferiority by achieving a means of escape, a relinquishing of the struggle ; and it satisfies the sense of guilt by signifying a self-punishment, an atonement, an expiation that eases the feeling of sinfulness.

Abstract Applications

ETHICS. The mention above of sinfulness brings us naturally to the abstract problem of morals in general. Into this we are not in a position to go deeply here, but from what has passed before the general point of view might be deduced that all moral codes are closely bound up with questions of individual development on the one hand, and of social evolution on the other. We cannot help observing how morals vary with the times and the place, in fact with the current culture and sense of values, so that what is right to-day may be wrong to-morrow. Of course, this does not absolve us from following—as far as we can honestly do so—the morals of our times ; we are not entitled to say that because morals change we shall, therefore, follow none. But it does allow us to apply our critical powers to the problem of disentangling the logical foundation of morals from the mass of prejudice, convention and dishonesty that enter into their structure. Only thus can we develop such a certainty in our moral outlook that

we shall be able to withstand temptation rather than be impelled to beg to be delivered from it.

MYSTICISM. The evolution of morals is largely bound up with that of religions and myths. It is here that we find that rich symbolism that represents the early attitudes of the race, particularly the sexual ones. That early religion and sex were so closely related is explained by two facts. Firstly, the primitive could only express religious ideas by analogy with the sexual; for instance, a savage wishing to express the idea of power, naturally did so in terms of sexual power, the one that loomed so large in his kind of life; again, his conception of creation was naturally expressed by words or pictorial representations referring to sexual reproduction; to him abstract creation without sexual union was inconceivable. Secondly, after the advent of sexual repression in the history of the race, religion began to provide a mental substitute or outlet for the emotional attitudes that were being repressed. According to the Freudian school, infantile attitudes, too, find their expression in religions. The emotions and fears the child has in relation to its parents colour its later religious outlook; the attitude it has towards its father can later be transferred to a higher Father. And whereas at first, in the early days of the race, the higher Father had both the good and the evil attributes of the earthly father (such evil ones as the cruelty of Jehovah, the licentiousness of the Greek gods, and the incestual behaviour of the Pharaohs who married their own sisters), the time came when the evil qualities were separated from the idea of a god and re-erected in that of a personal devil. It is because unconscious attitudes are so much reflected in the life of religion that we often have to view with suspicion any sudden and extreme outbursts of religiosity, these being a likely expression of unbearable mental tensions. The followers of Jung would view mysticism and religion not as an expression of personal attitudes resulting from individual reactions, but as an outward projection of the collective unconscious—an expression of man's dim appreciation of eternal truths.

LITERATURE. Moral and religious values are not the only ones capable of psychological analysis, for we find in literature all the themes and patterns that we have already found in our study of psychopathology. Ancient stories and dramas have depicted many a pathological situation, and we have examples in Oedipus who slew his father, Electra who killed her mother, Phædra who was in love with her son, Medea who hated her daughter as a rival, and Hercules who killed his children. In Helen of Troy, Delilah, and Cleopatra we recognise the narcissistic type of woman who conquers rather

than loves. Shakespeare gives us in *Hamlet* as pretty a picture of mother-fixation as we could wish ; Hamlet's attachment to his mother prevented him from marrying Ophelia, while the corresponding hatred and rivalry he felt towards his father prevented him from undertaking to avenge a death he himself had unconsciously desired. Not only the characters of fiction but the authors themselves provide interesting studies when their works are looked upon as a symptomatic production that has many of its roots in unsatisfied unconscious longings.

ART. Finally, a brief mention might be made of art (painting and sculpture) as an expression of our unconscious attitudes. We are, of course, all familiar with the use of symbolic figures to express various ideas such as courage, strength, love, motherhood, etc. Moreover, in ancient art especially, as well as in architecture, we come across various shapes and objects that originally had a sexual connotation (and probably still have it in our own unconscious minds). Thus the oval or circle has ever stood for the female, while typical male emblems would be the three-pronged fork, the three-pointed leaf, the elongated cross and the spear, also the snake. The triangle with the apex above was also a male symbol, the triangle with the apex below being a female one. We can see, therefore, how creation, fertility, sexual happiness, and so on, would be expressed by joining these various symbols together, producing, for instance, the six-cornered star (the male triangle superimposed upon the female one), or the fleur-de-lis (a circle seen in profile round the stem of a three-pointed leaf), or the oval with a cross-shaped handle, or again, the three-pointed window inside a gothic arch.

Conclusion

Brief though our survey has necessarily been, we see how a knowledge of psychopathology is not only of use in our immediate concern of understanding and helping the mentally afflicted, but sheds a not inconsiderable light upon much vaster problems concerned with our conduct as individuals, our place as members of society, and the values which guide us in our search for the Good, the Beautiful, and the True—those three quests that are the expression of our attempt at fulfilling the promise within us.

APPENDIX

The Central Nervous System

THE various body organs are naturally able to perform their particular functions on their own, but some agency is required to co-ordinate the activities of these organs into one harmonious whole, and also to organise the movements of the animal ; this co-ordination and regulation is supplied by the central nervous system.

The unit from which the nervous system is built up is the nerve cell or *neuron* ; each neuron has protruding from it a long nerve fibre, and nerve impulses pass from the neuron outward along the nerve fibre. Where the nerve fibre ends in close proximity to another nerve cell, the nerve impulse is received by the second neuron and then transmitted further through its own nerve fibre. Where the nerve fibre ends in muscles or glands, the nerve impulse results in muscular or glandular activity ; that is, movement or secretion. It will be appreciated that the nerve impulse or " current " is of one kind only, though its effects vary according to its distribution. In much the same way, if one electric current lights a lamp and another rings a bell, this is not because of any difference in the currents themselves, but because the two apparatus receiving them are not alike and therefore produce different results when put into action. Nerve impulses thus travel from neuron to neuron through a system of " relays " so to speak, until they reach their ultimate destination. In this way the nerve impulses pass from the various parts of the body to the brain as well as in the reverse direction, keeping the brain informed of what happens in the body on the one hand, and on the other putting the limbs and body organs under the control of the brain. Nerve fibres conducting incoming or afferent impulses are termed *afferent* nerves, those conveying outgoing impulses being correspondingly called *efferent* nerves.

The nervous system has evolved in levels, the lower levels being the earliest developed and those subserving the most primitive and elementary functions ; the highest levels are the most recently evolved, and are the ones essential to the functions peculiar to man—consciousness, memory and thought. The *spinal cord* represents the lowest functional level and the cord is all that is required for simple reactions such as those of avoidance, e.g. withdrawing the foot automatically when the sole is scratched. The functions that involve more complex

mechanisms but are still elementary ones essential to life (such as breathing, digestion, and heart action) are under the control of the next level of the nervous system, that of the *hind-brain* above the spinal cord. Higher up comes the *mid-brain* that is concerned with automatic reactions for the ensuring of essential postures and of balance. Then we have, just above the mid-brain, the level of what are termed the *basal ganglia*, the collections of nerve cells that are concerned in such complex reactions of the organism as instincts. Finally, at the highest level, we find the most recently acquired *fore-brain*, that part of the brain essential to consciousness. While each level has functions of its own it also exerts some measure of control over those beneath it.

The simpler forms of nervous action are based upon what are termed *reflexes*. A reflex is best defined as a motor or secretory response to a sensory stimulus, stimulus being merely the name given to any exciting event that causes or tends to cause a response. We have thus visual, auditory and tactile stimuli, the sights, sounds and touches experienced starting something in the nervous system that tends to result in some form of appropriate activity. A reflex is essentially a short circuiting of an incoming nerve impulse back through an outgoing path without the higher brain centres being concerned in the resultant action ; without, that is, conscious awareness or control.

The more elementary reactions take place by means of the spinal reflex. For instance, if the knee is tapped sharply just below the knee-cap while the leg is relaxed, the leg will automatically jerk forward. The short tap (the stimulus) initiates a nerve impulse that travels up a nerve fibre to the spinal cord. There the nerve fibre links up with another nerve cell and the nerve impulse is taken up by this neuron, transmitted along a short fibre to a third neuron, when the impulse then passes along the third neuron's fibre that leaves the spinal cord and runs down to the muscles of the thigh, the final result being the contraction of the thigh muscles and the jerking of the leg. Such "short circuiting" means that this reflex can take place in absence of fore-brain, mid-brain, or hind-brain, provided the *reflex-arc* is healthy, the arc that consists of sensory organ, afferent nerve and neuron, connecting neuron in the cord, efferent neuron and nerve, and muscles.

The spinal reflex arc is fairly simple, but when the response involves complex activity and occurs as a result of stimuli from various parts of the body, the nerve paths are more complicated. The incoming nerve impulses (conveyed from various parts by nerves entering the spinal cord at a number of different points) must, so to speak, be pooled in one common place or *nerve centre*, and from there outgoing impulses have to be relayed to the various muscles and glands concerned in the

response. This is made possible by the fact that incoming impulses are not only transmitted to other nearby neurons in the cord, but also follow nerve fibres passing right up the cord to certain definite centres or relays in the parts of the nervous system above. Thus, the next relay or group of neurons is situated in the hind-brain, the next in that part of the basal ganglia that is termed the *optic thalamus*, the final destination being the surface layers of the fore-brain—the *cerebral cortex*. The part of the cortex that receives sensory impressions is the sensory cortex, and it is there that sensation is registered and perceived. Then, in another part of the cortex—the motor cortex—voluntary movement is initiated by means of nerve impulses passing out of the nerve cells along nerve fibres travelling down to the spinal cord and connecting there with the efferent neurons controlling the muscles. There are other areas of the brain which are concerned neither with the receiving of sensations nor with the initiating of movements, though they are closely associated with both sensory and motor cortex, and it is in these areas that activities occur giving rise to what we term thought—to higher mental processes, in fact—and particularly important in this connection are the centres in the front part of the brain. Just as the cortex has a sensory, receiving part, and a motor part for initiating outgoing impulses, so do the basal ganglia contain a receiving station—the optic thalamus—and a motor centre for movement—the *striate body*. The mid-brain is likewise constructed, and so is the hind-brain. Needless to say, there are numerous inter-connections between the various centres at each of these levels and between one level and another.

Now we saw how, if an incoming impulse is short-circuited in the spinal cord, we get a spinal reflex. So if an impulse is short-circuited from an afferent nerve to an efferent nerve in the hind-brain, we get a reflex at the next higher level, the level concerned with breathing, digestion, etc. Again, if incoming impulses on reaching the optic thalamus are reflected through connecting neurons to the cells of the striate body, then to be conveyed from these down again to the cord and finally to limb muscles, we have a reflex at a higher level still, and it is reflexes such as these that provide the basis for the complex, innate responses we term instinctive behaviour. It is only when the response is initiated at the level of the cerebral cortex that it ceases to be automatic and involuntary, and assumes the status of conscious, voluntary and deliberate behaviour.

Finally, some special mechanism is required for the co-ordinating and harmonising of all these various activities. Our muscles must not only act when required, but they must do so in conjunction with each

other, otherwise our movements would be disorderly and ill-adjusted, as when a drunken man over-reaches in trying to grasp his glass or sways in walking owing to poor co-ordination and balance. This co-ordination and unification of response is provided by a special part of the brain—the *cerebellum*—which receives impulses from all sensory organs and is linked in return with all those nerve centres that initiate movement; it acts, so to speak, as liaison officer between all the various nerve centres, thus ensuring that all work in mutual harmony and none in isolation.

SUGGESTIONS FOR FURTHER READING

THERE are few less enviable tasks than that of the would-be mentor to general readers, yet some attempt should be made to indicate a few books that on account of their being simple, easy to read, and not too concerned with advanced intricacies, may provide the means of satisfying the demands of the junior student for further information.

As an easy introduction to psychology in relation to nursing might be mentioned Chadwick's *Psychology for Nurses*, while Stekel's *Beloved Ego* provides a popular exposition of a psychology that has much in common with Adler's; alternatively there is Adler's own pamphlet, *The Case of Mrs. A.* Slightly longer, but still excellent introductions to psychology, are *How the Mind Works* by Burt and others, and Brierley's *Introduction to Psychology*.

A fairly simple, and not too difficult, account of psycho-analysis for those with a medical or nursing background will be found in *Psycho-Analysis and Medicine*, by Stephen, though for clarity and accuracy there is no better book than Freud's own *Introductory Lectures*, more technical though it may be.

The mental life of childhood is well covered in Mannin's *Common-Sense and the Child*, and in Neill's *The Problem Child*. The difficulties peculiar to adolescence are most usefully discussed in *The Road to Maturity*, by Griffiths, the broader question of family reactions and attitudes being handled by Bossard and Bole in their *Family Situations*. From the angle of education, Pintner's *Educational Psychology* might be mentioned.

The very important question of crime and delinquency is admirably treated by Mullins in *Crime and Psychology*; another useful book being *The Criminal, the Judge, and the Public*, by Alexander and Staub.

As a charming introduction to the study of primitive races in relation to the understanding of the psychology of civilised peoples, there is nothing better than Mead's *Coming of Age in Samoa*. With reference to modern social experiments as carried out in Russia the little book by Williams, *Soviet Russia Fights Neurosis*, should be noted.

For information concerning industrial psychology, recourse might be had to Myers's *Industrial Psychology in Great Britain*, to Muscio's *Lectures on Industrial Psychology*, and to Strong's *Psychological Aspects of Business*.

If a general outline of sexuology is required, there is probably nothing to touch Havelock Ellis's *Psychology of Sex* (in one volume), while a pleasing essay on the application of the sexual theory to the understanding of society is Money Kyrle's *Aspasia*.

Finally, for those who might wish for a general and yet not too detailed account of all the various applications of psychology to the many aspects of human life (medical, social, educational, commercial, etc.), there is the most excellent book by Higginson, *Fields of Psychology*.

GLOSSARY

ADRENAL GLAND (or **SUPRARENAL GLAND**). This lies above the kidney and secretes several substances including adrenalin. It regulates blood pressure, affects sugar storage, keeps up muscle tone, affects pigmentation of skin, and influences growth and sexual development.

AESTHETICS. The study of standards of beauty.

ANÆSTHESIA. Loss of sensation.

ANGINA. A disease of the heart characterised by pain, palor, sweating, irregular pulse, anguish, and sometimes faintness.

ANTHROPOLOGY. The natural history of the human species.

ANUS. The lower opening of the alimentary canal.

AUDITORY. Pertaining to hearing.

CLIMACTERIC. *See* **MENOPAUSE**.

COLITIS. Inflammation of the large bowel.

CONVERSION HYSTERIA. *See* **HYSTERIA**.

CORONARY. The name applied to the arteries that supply blood to the muscular wall of the heart itself.

CUTANEOUS. Pertaining to the skin.

DELIRIUM. A general disturbance of consciousness leading to restlessness, confusion and hallucinations, especially of sight and hearing.

DELUSION. A false belief that is not in keeping with its possessor's normal state which would not be acceded to by others of similar race, culture and environment, and cannot be changed by evidence or argument.

DELUSIONAL INSANITY. A mental disorder dominated by the presence of elaborate delusions, often fixed and supported by illogical reasoning, but without much interference with intellect or disturbance of conduct, apart from the direct effect of the delusions.

DEMENTIA. Acquired mental enfeeblement.

DEMENTIA PRÆCOX. (**PRIMARY DEMENTIA**). A mental disease (one of the forms of insanity) arising mostly in adolescence or in the third decade of life, characterised by mental enfeeblement and self-centredness, often with either confusion and incoherence, or excitement, resistiveness and impulsive behaviour, or extravagant delusions.

DIABETES. A disturbance of sugar chemistry in the body leading to increased sugar in the blood and sugar in the urine.

DUCTLESS GLAND. *See* **ENDOCRINE**.

DUODENAL. Pertaining to the duodenum, the small bowel immediately below the stomach.

EGO. The mental self. As used in psycho-analysis, *see* page 50.

ENDOCRINE GLAND. A ductless gland, so called because the substances it produces are not passed out through a canal or duct, but are absorbed directly into the blood stream and are circulated all over the body. The principal endocrine glands are the pituitary, the thymus, the thyroid, the adrenals, and the sex or reproductive glands (ovaries and testicles).

ETHICS. That part of philosophy that treats of standards of human morals.

ETHNOLOGY. The comparative study of races and their customs.

EXOPHTHALMIC GOITRE (GRAVE'S DISEASE). An enlargement of the thyroid gland (goitre) with over-secretion of the gland leading to protruding eyes (exophthalmos), tremors, rapid pulse, palpitation, and such mental symptoms as anxiety and agitation.

FÆCES. Excrement.

FRATRICIDE. The killing of one's brother.

FRONTAL LOBES. The front portion of the brain specially concerned in the functioning of intelligence and thought.

GENERAL PARALYSIS (OF THE INSANE). A mental condition resulting from a syphilitic affection of the brain. The main symptoms may be either delusions of exultation and wealth, or confusion, or depression, or simple enfeeblement.

GENITAL. Pertaining to the sex or generative organs.

HALLUCINATION. A sensory impression with no external cause, such as hearing a voice when no one is speaking. This is different from an *illusion*, which is a false perception, such as the perceiving of a child's cry when what is in fact being heard is the howling of a dog.

HYPER-. Prefix meaning excessive, over.

HYPNOSIS. A state of mind, artificially induced, characterised by increased suggestibility, lessening of will-power, and (in its deeper stages) varying degrees of unconsciousness from mere somnolence to deep sleep.

HYPO-. Prefix meaning under.

HYSTERIA. A mental disease which may show very varied symptoms, and may closely simulate physical disorders. The major manifestations include any of the following—fits, pain, anæsthesia, tremors, paralysis (all without a physical basis), anxiety, emotional instability, loss of memory, and various forms of subtle personality changes.

INCEST. Sexual relations between close blood relatives (e.g. father and daughter, brother and sister).

INNERVATION. The supplying of an organ with nerve impulses.

MANIA. See MANIC-DEPRESSIVE INSANITY.

MANIC-DEPRESSIVE INSANITY. Mania is a mental state characterised by excitement, elation (often with delusions of grandeur), and perhaps incoherence. Melancholia is a state of depression with, maybe, delusions of guilt and unworthiness or of bodily disease, together with either listless self-absorption or agitated distress. When states of mania and of melancholia alternate with one another in the same person (with or without intervening periods of normality) then the condition is known as Manic-Depressive Insanity. It often happens that the manic phase may be well marked, while the depressive one is so slight—no more than a transient decrease in interest and resilience—as to be missed by the unobservant; conversely, the depressive episodes only may be extreme, the manic periods showing merely a barely noticeable increase in buoyancy and self-satisfaction.

MELANCHOLIA. See MANIC-DEPRESSIVE INSANITY.

MENOPAUSE. (CLIMACTERIC.) The change of life, when alterations occur in the functions of the endocrine glands. In the female, this results, among other things, in a cessation of menstruation.

METABOLISM. The chemical changes taking place in living tissues.

MYXŒDEMA. A disease due to under-functioning of the thyroid gland in adult life, characterised by dry, harsh, puffy-looking skin, expressionless face, sallow complexion, coarse and scanty hair, impaired intelligence, defective memory and apathy. In children, the corresponding condition is termed "cretinism."

NEPHRITIS. An inflammation of the kidney.

NEUROSIS and PSYCHONEUROSIS. Mental disorders not amounting to insanity, in which the patient retains insight into the nature of his complaint—unlike the patient who suffers from an insanity (or psychosis) and does not realise the true nature of his trouble. The line separating such as neurasthenia, anxiety reactions, obsessional states, and hysteria from true psychosis is often very indistinct.

OBSESSION. An abnormal and excessive preoccupation which the patient realises as abnormal but cannot adequately control.

OLFACTORY. Pertaining to the sense of smell.

ORAL. Pertaining to the mouth.

PATHOLOGY. The study of abnormal processes in the body.

PERINEAL. The perineal zone is the area of the body that includes the genital organs and the anus.

PHANTASY. Imagination indulged in excessively, to the exclusion of contact with reality and often in substitution for the facing of actual problems. Such imagination frequently is a form of wish fulfilment and is a prominent symptom in dementia præcox and the introverted types. Where it does not lead to a neglect of the demands of the real world and is not unduly excessive, it accounts for such artistic productions as allegorical or mystical drama, poetry, painting, or sculpture. Phantasy is more prominent in childhood than in adult life.

PITUITARY GLAND. A ductless gland at the base of the brain that has a controlling effect on most of the other endocrines and a particular influence on bone development and blood pressure.

PRIMARY DEMENTIA. See **DEMENTIA PRÆCOX**.

PROCREATION. Reproduction.

PSYCHOSIS. An insanity (cf. **NEUROSIS**).

PUBERTY. The attainment of sexual maturity, accompanied by changes in endocrine functions responsible for the acquisition of such secondary sexual characteristics as the adult voice and contours, and the growth of facial hair in men.

PUERPERAL. Pertaining to the puerperium or post-confinement state.

SCHIZOPHRENIA. A term that includes all that is meant by dementia præcox (q.v.) and also covers milder conditions not amounting to insanity but essentially the same in nature as dementia præcox, though less in degree as regards the actual symptoms. Schizophrenia is sometimes described as the disease of split personality. This should not mislead us into confusing this splitting with the dissociation of the Dr. Jekyll and Mr. Hyde variety mentioned in the text. The latter might be described as a *vertical* split, each portion functioning as a separate entity. Using the division of mental functions into the groups already described, we might say that in Dr. Jekyll and Mr. Hyde, all aspects of the mind were present—the cognitive, the affective, and the conative. In schizophrenia, however, the split is more of a *horizontal* one, between higher functions such as thought on the one hand, and automatic action on the other, the two kinds of activities being insufficiently related.

Often the schizophrenic patient's feelings are out of gear with his thoughts; or he may know what he should do, he may desire to do it, but owing to the split in his mind he cannot translate the desire into action. Or again, it may be that the split could be looked upon as separating his phantasy life from such impressions as the real world may make upon him. In other words, the splitting in schizophrenia occurs in various ways between cognition, affect, and conation, it can be viewed in different ways, and it is never as straightforward as an ordinary dissociation leading to the existence side by side of two apparently complete personalities.

SINUS. The cavity or space found in certain bones (1) of the face—maxillary, (2) forehead—frontal, or (3) ear—mastoid. These are liable to become infected after colds owing to all these cavities having connections with the nasal passages.

STASIS. Stoppage and stagnation in a flow (e.g. arrest of circulation in a blood vessel or a stationary state of the bowel contents).

STUPOR. State of extreme inactivity and unresponsiveness.

TACHYCARDIA. Rapid action of the heart.

TACTILE. Pertaining to the sense of touch.

THYMUS GLAND. An endocrine gland behind the breast bone, present in children but disappearing in adult life, affecting the use of lime salts in the body and related to sexual growth. The gland often remains large in sexually immature adults.

THYROID GLAND. An endocrine gland situated in front of the neck. It affects blood pressure, temperature, pulse rate, general nutrition and growth. Thyroid over-secretion accounts for exophthalmic goitre (q.v.) and under-secretion for myxœdema (q.v.).

TOXINS (and TOXÆMIA). Poisons produced in the body itself through the actions of bacteria. The condition of such poisoning is termed "toxæmia."

TRAUMA. Shock or injury.

VASCULAR. Pertaining to the blood vessels.

VISCERA (plural of **VISCUS**). The name given to internal body organs such as heart, lung, stomach, etc.

VISUAL. Pertaining to sight.

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